



BOROUGH OF BOOTLE.

---

# Annual Report

OF THE

## SCHOOL MEDICAL OFFICER.

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### 1913.

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*Submitted to the Elementary Education Sub-Committee  
on January 30th, 1914.*

BOOTLE :  
HUGH EVANS & SONS, 68 HERTFORD ROAD & 356, 358 STANLEY ROAD, LIVERPOOL.

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Mr. Alderman ROBERTS, L.R.C.P., J.P. (Chairman of the Education Committee),

and

HIS WORSHIP THE MAYOR (Mr. Councillor Rafter, L.R.C.P.)

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## Medical Staff.

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*School Medical Officer and Medical Officer of Health—*

W. ALLEN DALEY, M.D., B.S., B.Sc. (Lond.), B.A. (R.U.I.), D.P.H. (Cantab.)

*Medical Inspector of Scholars—*

H. J. MILLIGAN, M.B. (Glasgow), D.P.H. (Cantab.)

*School Nurse :*

Miss W. NICHOLLS.

# CONTENTS.

	Page
Introductory ... ..	6
General Review of Administrative Arrangements ... ..	7—13
Sections I.—Medical Inspection ... ..	13—53
„ II.—“ Following-up ” and Medical Treatment ... ..	53—60
„ III.—General Review of the Hygienic Conditions prevalent in the Schools ... ..	60
„ IV.—Provision and Management of Special Schools ... ..	60—65
„ V.—Physical Training, etc. ... ..	65—66
„ VI.—Juvenile Employment ... ..	66—74
„ VII.—Feeding of School Children ... ..	75
	Page.
Adenoids ... .. 29, 41—43, 58	
Canteen Committee School... 32, 33, 75	
Children Act : Section 122... 31—32	
Chickenpox ... .. 52	
Cleanliness of the Scholars... 30—32, 55	
Clothing ... .. 32, 33	
Cost of Medical Inspection... .. 6, 7	
Deaths of school children ... .. 53	
Deformities ... .. 50	
Diphtheria ... .. 50	
Ear Disease ... .. 43—44, 58	
Exclusion of Sick Children... 24—25	
Eye Disease ... .. 33—34, 56, 62	
Epilepsy ... .. 47, 63	
Feeding of School Children... .. 75	
Footwear ... .. 32	
Glands, Enlarged ... .. 43	
Grant for School Medical Service ... .. 6, 7, 11—12	
Handkerchief Drill ... .. 65	
Heart Disease ... .. 46—47	
Height of Children ... .. 25—27	
History, Medical ... .. 8, 16	
Infectious Diseases, Review of action taken to prevent spread of 50—53	
Inspection Clinic ... .. 9, 14	
Irregular Attenders ... .. 22	
Juvenile Employment ... .. 66—74	
Lung Disease... .. 47	
Lighting ... .. 60	
Mal-nutrition and General Debility ... .. 27—30, 58	
Measles ... .. 50—51	
Mental Condition ... .. 44—46, 62—63	
Mumps ... .. 52	
Nervous System ... .. 47	
Nose, Diseases of ... .. 41	
Ophthalmic Clinic ... 34, 37—39, 56—57	
Parents, Attendance of ... .. 15	
Place of Examination ... .. 9	
Playground Classes ... .. 65—66	
Review of Administrative Arrange- ments ... .. 7	
Review of principal facts relating to the Elementary Schools ... .. 6	
Rheumatism ... .. 46—47	
Rickets ... .. 29, 50	
Ringworm ... .. 33, 55	
Routine Examinations 8, 9, 15, 18—21	
Re-examinations ... .. 8, 9, 14, 15	
Sanitation of Schools ... .. 60	
Scarlet Fever ... .. 50	
School Nurse... .. 7, 9, 53	
Skin Diseases... .. 33, 56	
Special Examinations 13, 14, 15, 18—21, 22	
Speech ... .. 44	
Squint ... .. 34	
Teeth ... .. 40—41, 59	
Temperance and Hygiene, Teaching of 66	
Tonsils, Enlarged ... .. 41—43, 58	
Tuberculosis 29, 47—50, 58—59, 63—65	
Ventilation ... .. 60	
Verminous Children, Cleansing of 31—32	
Vision... .. 35—40, 56, 62	
Weight of Children ... .. 25—27	
Whooping Cough ... .. 51	
Table I.—Number of Children Inspected ... ..	13
„ II.—Return showing the Physical Condition of Children Inspected... ..	18—21
„ III.—Numerical Return of all Exceptional Children in the Area ... ..	61
Recommendations and desiderata 59, 60; 64, 59; 55—56; 53—54; 58; 39—40; (	

## THE SCHOOL MEDICAL OFFICER'S REPORT.

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30th January, 1914.

*To the Chairman and Members of the  
Local Education Authority.*

LADIES AND GENTLEMEN,—

I have the honour to present herewith the sixth Annual Report on the Inspections of Schools and School Children.

The Board of Education now afford material financial relief in aid of expenditure on the school medical service. The Board in a circular concerning these grants state “ Local Education Authorities will realise that under the new conditions as to grant, the need for an accurate, clear, and full statement of the work of the School Medical Service in each area, is increased, and that the absence of such a statement may necessitate a considerable amount of correspondence when the Authority's application for grant is being examined.”

“ Further, in the Board's view, the time has now come when these reports should include, as far as practicable, a general discussion and exposition of the facts revealed, in order that, by means of co-operation between School Medical Officers of different Authorities an adequate review of the work of school hygiene throughout the country may be made possible.”

Hence, it has been thought advisable to give detailed information as to the results of the inspections and also to deal at length with certain general questions such as the employment of school boys out of school hours, which have arisen in the course of the year.

The tables suggested by the Board of Education are inserted and supersede the tables in former reports which gave an analysis of the defects found in the children attending each school.

Dr. Milligan has greatly assisted in the compilation of this report.

I wish again to acknowledge my appreciation of the constant help which I have received from the officials of the Education Department.

I have also to thank the members of the Elementary Education Sub-Committee for the active interest which they have taken in this branch of their work and for the time and attention which they have devoted to it.

I am, Ladies and Gentlemen.

Yours obediently,

W. ALLEN DALEY,  
*School Medical Officer.*



## COUNTY BOROUGH OF BOOTLE.

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The population of the Borough at the Census of 1911 was 69,876 : 13,965 were between five and fourteen years of age.

In July 1913, the estimated number between these ages was 14,426, and the total population 72,186.

The area is 1,947 acres : exclusive of the Dock Estate it is 1,609.

There are six Council, three Church of England, and three Roman Catholic Schools. Their accommodation, average number on the rolls and average attendance during 1913, are given in the following table :—

				Accommodation	Average No. on Rolls	Average Attendance
Council Schools	..	..	..	6,508	6,619	5,935
Roman Catholic Schools	..	..	..	2,776	2,972	2,627
Church of England Schools	..	..	..	2,407	2,525	2,242
				<hr/>	<hr/>	<hr/>
Total	..	..	..	11,691	12,116	10,804
				<hr/>	<hr/>	<hr/>

On January 31st, 1913, there were in the Denominational Schools, 107 boys and 129 girls who were then under the age of five years. Children under that age are not admitted to the Council Schools.

The nominal accommodation of the Day Industrial School is 300 ; during 1913, the average number on the rolls was 121 and the average attendance 117.

Another Council School designed to receive 1,000 children, has lately been erected and was opened on January 5th, 1914.

I am indebted to the Borough Accountant for the following :—

The Rateable Value of the Borough in 1912–1913 was £468,336.

The gross cost of Medical Inspection for the twelve months ending July 31st, 1913, was £546 18s. 1d.; the Government Grant was £140 6s. 0d. ; hence the net cost was £406 12s. 1d.



The cost under this head per child on the school rolls was 10·8*d.* gross and 8*d.* net, and the cost as a decimal part of a penny rate was ·294 gross and ·219 net.

A grant of £273 9*s.* 0*d.* was received in March, 1914, in respect of the above-mentioned expenditure of £546 18*s.* 1*d.*

## GENERAL REVIEW OF ADMINISTRATIVE ARRANGEMENTS.

The School Medical Officer who is also Medical Officer of Health, is chiefly concerned in the administration and general supervision of the various branches of the work.

The inspections and re-inspections of routine cases and the examinations of special cases are mainly carried out by the Medical Inspector who is also Assistant Medical Officer of Health.

Each school is visited at least twice a year for routine inspections ; once for the examination of the leavers, which is usually completed before the midsummer holidays, and again for the examination of the entrants, which is carried out during the autumn term.

The time of the School Nurse was fully occupied throughout the year in following-up cases of defect, dealing with verminous children, attending the ophthalmic clinic for school children at the Royal Hospital and in a variety of other ways. She was assisted to some extent during the year by Voluntary Workers, but another official worker is greatly needed, and I am glad to be able to state that the Education Authority have now resolved to appoint another School Nurse who, amongst other duties, will carry out minor treatment.

The clerical work which is steadily growing is carried out in the Public Health Department. The clerks are thus directly under the control of the School Medical Officer and the arrangement is a good one. The cards are kept at the Town Hall. Lists of the entrants to, and leavers from, each school are supplied regularly, and thus the cards correspond fairly accurately with the children actually on each school roll.

An advantage of having the cards at the Town Hall is the ease with which one can find the result of the routine inspection of children sent to the Inspection Clinic for special examination, and an extension of the system, if a larger clerical staff were available, would provide for all ex-

clusions and their causes and the results of treatment being entered on the appropriate cards, which would then contain a complete medical history of the children.

*Groups of Children Examined.*—During the year, 3,488 routine examinations were performed, comprising 1,699 entrants, 1,180 leavers and 609 children of an intermediate age group.

An admission form containing the medical history supplied by the parent to the head-teacher, is received by the School Medical Officer concerning every child who enters a school. An inspection card is made out for each case and thus a complete list of entrants is obtained. If the admission form states that any previous examination has taken place, the card is transferred. If the child has been inspected in any other area, an endeavour is made to obtain the card from that area. In 1913, entrants to infants' departments formed 15·7% of the average attendance.

All children born on or before December 31st, 1900, were examined as "leavers," thus anticipating the requirement of the Board of Education that next year all children between twelve and thirteen years of age shall be examined in the "leaving" group. By examining children aged twelve, ample time is given in which to follow them up and secure treatment, before they leave school, for any defects discovered. The 1,180 "leavers" represent 10·9% of the average attendance.

The number whose examination is required by the Code, that is, the entrants and leavers was 26·6% of the average attendance.

The plan was adopted of examining as intermediates, all children aged eight to eleven for whom an admission form had been received because of their transfer from one school to another. They numbered 609 or 5·6% of the average attendance. During 1914, an endeavour will be made to examine as intermediates, children who will be aged eight during the next code year (which begins April 1st, 1914). The total number of children inspected at routine examinations was 32·2% of the average attendance.

Immediately after the routine inspection of each department, a list of the children who require treatment is placed upon the Following-up Register, a copy of which is sent to the Head Teacher; six weeks afterwards, the Medical Inspector re-examines all children whose names appear upon this

register. The register is then handed to the School Nurse who visits the homes of those children who are still in need of treatment, and those who were absent at the re-inspection and endeavours to obtain amelioration of the defects. If any child is found at a routine or special examination to be in urgent need of treatment, the case is referred immediately to the School Nurse. Further re-examinations by the Medical Inspector take place from time to time.

Children who obviously require medical attention and who would not otherwise be examined are presented as "special" cases during the routine visits; or they may be seen at the Inspection Clinic, at the Town Hall, on Monday, Wednesday and Thursday at 4 p.m., and on Saturday at 10 a.m.

*Time taken for Examinations.*—The number of children who could be examined in a school session varied considerably and depended largely upon the amount of assistance given by the teachers. Under favourable circumstances it was possible to examine some fifteen or twenty children between 9-45 a.m. and noon, or 1-45 and 4 p.m. As the thoroughness of the examination is increasing, it is obvious that the number of children who can be examined each day must decrease.

*Where Examinations are held.*—In 1913, the examinations were held in the school buildings except in the cases of St. James' and St. James' Select Schools, where no suitable accommodation can be provided for the Medical Inspector. The children from these schools were examined at the Day Industrial School, a short distance away. Even though the examinations are not carried out in the schools, it is essential that a responsible teacher who knows something of the capabilities of the children to be inspected, should accompany them and remain throughout the examination for the purpose (1) of drawing the doctor's attention to special cases, for example, irregular attenders, children with defective hearing or vision who are too young to be tested in the ordinary way, dull or backward children, children who suffer from, or who are said to be suffering from nervous disorders such as fits, drowsy children, etc., and (2) of receiving information as to the physical condition of the children, some of whom should be placed on the front row because of bad eyesight or hearing; others should receive special attention during the portion of the



day devoted to breathing exercises; others again whose mental capacity is not of the best, should not be punished for failing to acquire knowledge as readily as their fellows; while others who are ill-nourished should be specially considered as to the need for enquiry into the question of whether they should be put on the free breakfast list; others are rheumatic and should not be allowed to sit in school in damp boots or stockings. These are only a few of the points in which co-operation between teachers and the school medical department is essential if the best result is to be obtained for the money spent on education; the best value for this money is attainable only if each child is physically and mentally as fit as possible during its school life, and in the best possible condition to profit by the instruction provided.

In eight of the schools the examinations take place in the teachers' rooms, and in class-rooms in the remaining two. In at least three of the teachers' rooms the accommodation is unsuitable for the testing of vision, for which good illumination and a room twenty feet long are required. In some schools, the noise from the street or surrounding rooms rendered examination of the chest and hearing rather difficult.

*Co-Ordination with Other Departments.*—As the School Medical Officer is also Medical Officer of Health, there is complete co-ordination of school medical work and those other branches of preventive medicine which are carried out by the Local Sanitary Authority.

The cordial co-operation between the Education and Public Health Departments of the Corporation, which has been noted in previous reports, continues.

The School Attendance Department is daily furnished with certificates of children excluded under the provisions of Article 53 (b) of the Code. Arrangements are being made to supply the head teachers with duplicates of these and also of the return slips issued when a child excluded " indefinitely " may return. The Secretary for Education sends notifications of cases of infectious diseases, eczema, ringworm, sore eyes, etc., as soon as they are brought to the notice of the School Attendance Officers; many of the teachers report these cases directly and thus earlier information is obtained; all cases notified are visited, and, if need be, excluded. If any doubt exists as to whether a child is unfit to attend school on medical

grounds, and a certificate from a medical practitioner is not produced, he or she is sent to the Medical Inspector for examination and report. The usual reason given for failure to produce a certificate is inability to pay the necessary fee.

All medical certificates received by the School Attendance Department are referred to the School Medical Officer.

#### SCHOOL MEDICAL SERVICE GRANTS.

In March, 1913, grants were made by the Board of Education in respect of "Medical Treatment and Care of Children attending Public Elementary Schools, including Following-up and work ancillary to Treatment." This was the first year in which special grants in aid of expenditure on the School Medical Service were distributed. The Education Authority for Bootle received a grant of £140 6s. 0d.

During the year ending March 31st, 1914, grants for the first time will be paid in respect of the work of *Medical Inspection*.

The following are extracts from the Regulations of the Board of Education.

"Grant will be assessed on the basis of the work done and the payments made by the Local Education Authority, during the year ended 31st July, 1913."

"Where, in the Board's opinion, the provision made for the School Medical Service is adequate and its working is efficient, grant will be paid at the rate of one-half the expenditure; in other cases the Board may either pay at a lower rate or withhold the grant." The grant received in Bootle was one-half the expenditure.

"In fixing the rate of grant, the Board will take into consideration the scope, character and efficient working, as ascertained by the Board from reports made by their Medical Officers, or otherwise, of the Authority's provision and arrangements—

(a) for the medical inspection of the groups of children prescribed by the . . . . code . . . . ;

(b) for following up cases of defects found in the course of medical inspection ;

(c) for securing the medical treatment of cases requiring it ;

(d) for co-ordinating the work of the School Medical Service with the work of the Public Health Service in the area ;

(e) for rendering the School Medical Service an integral part of the system of Elementary Education in the area."

"The Board of Education will make grants to Local Education Authorities and to Managers of certain Special Schools . . . in respect of the Medical Treatment and Care of Children suffering from Tuberculosis or other ailments for which open-air treatment is specially suitable, in attendance at Day or Residential Open-air Schools certified by the Board of Education under the Elementary Education (Defective and Epileptic Children) Act, 1899, and conducted in accordance with the Board's Regulations applicable to Schools for Blind, Deaf, Defective and Epileptic, Children.

The grants made under these Regulations will be in addition to the grants payable under the Regulations applicable to schools for Blind, Deaf, Defective, and Epileptic Children."

"The maximum grant payable, will be at the rate of £3 per unit of the average attendance in the case of Day Schools, and at the rate of £8 per unit of average attendance in the case of Residential Schools."

Dr. H. C. T. Langdon, a Medical Inspector of the Board of Education, visited Bootle on October 15th and made a detailed enquiry into the several branches of school medical work. Following on his visit, the Chief Medical Officer of the Board of Education wrote a letter to the Authority from which the following is abstracted :—

"The Board are glad to learn that the work of routine medical inspection, following-up and re-inspection, is satisfactorily carried out."

"The Board understand, however, that there are at present very limited facilities for the treatment of minor ailments, such as ringworm and other skin diseases, minor external diseases of the eye and discharging ears. It appears to the Board to be very desirable that some provision should be made for the effective and speedy treatment of such cases, and I am to point out that much valuable work could probably be done by the appointment of an additional nurse to deal with such cases, working under the direction and supervision of the School Medical Officer."



“I am to draw the attention of the Authority to Schedule IV (7) of the Code, and to point out that it is not permissible for teachers to remove from the registers the names of children who are absent from school on medical grounds, unless the School Medical Officer has certified that in his opinion there is no likelihood of the child being in a fit state of health to attend school before becoming legally exempt from the obligation of school attendance.”

The letter also sanctions the holding of the ordinary medical inspections in the cases of St. James' School and St. James' Select School at the neighbouring Day Industrial School, and refers to certain financial details concerning the medical service grant.

As a result of this letter a second school nurse, with duties on the lines set out in the Board's letter, is about to be appointed.

### I.—MEDICAL INSPECTION

The following table gives the number of children examined :—

TABLE 1.—NUMBER OF CHILDREN INSPECTED, 1ST JANUARY, 1913,  
TO 31ST DECEMBER, 1913.

A—"CODE" Groups

B—Groups other than  
"CODE"

Age	Entrants						Leavers				Grand Total		Inter- mediate Group	Special Cases	Re-exam- inations
	3	4	5	6	Other ages	Total	12	13	14	Total					
Boys	5	46	473	266	79	869	389	290	15	694	1563	Boys	323	343	—
Girls	8	49	431	237	105	830	279	198	9	486	1316	Girls	286	419	—
Totals	13	95	904	503	184	1699	668	488	24	1180	2879	Totals	609	762	3490

Inspections have been performed in all the departments of every school.

*Special Examinations.*—The number of children who were presented for special examination was 762. Of these, 191 were presented by the teachers at school during the course of the routine inspections or re-inspections; 25 were members of a special class for backward girls who were examined at school, and 546 were seen at the Town Hall.

The following table shows the number of children who were referred for examination at the Town Hall by :—

Teachers	..	..	..	..	..	..	150 or 27%
School Attendance Officers	..	..	..	..	..	..	178 „ 32%
Lady Health Visitors..	..	..	..	..	..	..	181 „ 33%
Parents and Others	..	..	..	..	..	..	37 „ 7%

The Inspection Clinic held at the Town Hall is very popular. 546 new cases were seen in 1913 compared with 476 in 1912. If any serious defect is found, the parent is asked to take the child to his or her usual medical attendant: in many cases he is the medical officer of a hospital or other charitable institution. No treatment is given by the School Doctor, but arrangements have been made for children with eye disease to be treated at the Royal Hospital, Bootle, and are in process of being made for the treatment of minor ailments by a school nurse, under the supervision of the Medical Inspector, at the Town Hall.

Though it has been impossible to devise a scheme by which waiting to see the doctor can be altogether avoided, it is found in practice, that a maximum of about twenty attend at one time and it is seldom that a patient has to wait more than half to three-quarters of an hour. As the parents and children have perforce to remain in a corridor, every effort is being made to avoid prolonged waiting. Many attend simply to report themselves, e.g., cases of ringworm, and these can usually be dealt with in a few minutes.

*Re-Examinations.*—3,490 re-examinations were made; 2,606 were performed at the schools and included the re-examinations of all those routine or special cases whose names appeared on the following up register; 884 re-examinations were made at the Town Hall; these included re-examinations for certificates to attend school after ringworm, etc., and visits paid by tuberculous and other children who were being kept under observation; but, since August, all notified cases of tuberculosis have been kept under observation by the Tuberculosis Officer.

Thirty-two children who had been committed to Industrial Schools were examined; also, fourteen bursars.

From the following table, which shows the total number of examinations performed since the inauguration of the work it will be seen that the total number of examinations is almost the same as last year, but the number of routine inspections has had to be curtailed, partly because of the greater time taken to examine each child, and partly because of the larger number of special and re-examinations performed.

It is hoped that with the aid of another school nurse, the examination of the age eight group which will be required by the Code next year, can be accomplished without increasing the medical staff.

Year		Routine Inspections		Special Examinations		Re-Examinations		Total
1908	..	1,565	..	—	..	—	..	1,565
1909	..	2,550	..	408	..	—	..	2,958
1910	..	2,049	..	?	..	—	..	2,049
1911	..	2,920	..	515	..	1,119	..	4,554
1912	..	3,966	..	648	..	3,170	..	7,784
1913	..	3,488	..	762	..	3,490	..	7,740
Total	..	16,538	..	2,333	..	7,779	..	26,650

By the end of 1914, every child in attendance at the Public Elementary Schools should have been examined at least once.

*Attendance of Parents.*—The following table gives the number of parents present at the routine examinations :—

	Boys		Girls		Infants		Total
Children examined	1017	..	772	..	1,699	..	3,488
Parents present	336	..	359	..	1,158	..	1,853
Percentage	33	..	46·5	..	68·1	..	53·1

It is gratifying to note that the percentage of parents present at the examinations continues to increase, being 53·1 compared with 51·8 in 1912 and 49·4 in 1911.

*Objections to Examination.*—In only three instances did the parents send written objections to the examination of their children.

*Disturbance of School Arrangements by Inspections.*—Three days' notice of a routine inspection and one day's notice of a re-examination is sent to

the Head Teacher of the department concerned. The great majority of the teachers are keenly interested in the work and are furthermore anxious for its extension and the inclusion of a definite treatment scheme as part of the School Medical Service.

I wish to express again my thanks to all the teachers, particularly the head teachers who, with scarcely an exception, have willingly rendered every assistance in their power.

It would be helpful to both the teachers and the medical staff, if an entry were made in the school register, whenever a child is medically examined for the first time. If this were done, then it would be obvious if any child had escaped examination, and the child could be specially presented.

*Visits to Schools.*—192 visits to schools for routine inspections were made by the Medical Inspector. The School Medical Officer or the Medical Inspector paid 25 visits for special examinations and 44 for re-examinations. Thirty-five visits were paid to the Day Industrial School.

*Inspection Cards.*—The cards are similar to those used in previous years.

#### MEDICAL HISTORY OF THE 3,488 CHILDREN INSPECTED.

Before commencing school life,

2,370	or	67·9%	were said to have suffered from	Measles
1,472	„	42·2%	„ „ „ „	Whooping Cough
905	„	25·9%	„ „ „ „	Chickenpox,
349	„	10·0%	„ „ „ „	Scarlet Fever
89	„	2·5%	„ „ „ „	Diphtheria

Since commencing school life,

157	or	4·5%	were said to have suffered from	Measles
97	„	2·7%	„ „ „ „	Whooping Cough
76	„	2·1%	„ „ „ „	Scarlet Fever
43	„	1·2%	„ „ „ „	Chickenpox
12	„	·3%	„ „ „ „	Diphtheria

Vaccination had not been performed in 163 instances, or 4·6%

## GENERAL SUMMARY.

A general summary may now be given of the numbers examined, and the defects found in each of the four groups of children—

1. Entrants—That is, those below the age of seven years who are examined soon after their first entrance to school.
2. Leavers—That is, those aged twelve years or more.
3. Intermediate Age Group—That is, those aged eight to eleven years.
4. Special Cases—That is, those (not usually included in the above groups) who were presented for examination because of a more or less obvious defect.



Defect.		Entrants				Leavers.				Intermediates. Aged 8—11 years.			
		Boys	Girls	Total	%	Boys	Girls	Total	%	Boys	Girls	Total	%
Total Inspected .....		869	830	1699		694	486	1180		323	286	609	
Clothing	{ Satisfactory ...	826	815	1641	96·6	604	471	1075	91·1	266	277	543	89·2
	{ Unsatisfactory	43	15	58	3·4	90	15	105	8·9	57	9	66	10·8
Footgear	{ Satisfactory ...	796	778	1574	92·7	601	456	1057	89·6	274	263	537	88·2
	{ Unsatisfactory	73	52	125	7·3	93	30	123	10·4	49	23	72	11·8
Cleanliness of Head	{ Clean .....	810	368	1178	69·4	649	150	799	67·8	291	104	395	64·9
	{ Nits only ...	55	462	517	30·4	44	335	379	32·1	32	182	214	35·1
	{ Pediculi .....	4	—	4	·2	1	1	2	·1	—	—	...	
Cleanliness of Body	{ Clean .....	830	799	1629	95·9	647	460	1107	93·85	291	266	553	90·8
	{ Dirty .....	35	28	63	3·7	44	26	70	5·9	31	22	53	8·7
	{ Pediculi pres	4	3	7	·4	3	—	3	·25	1	2	3	·5
Nutrition	{ excellent .....	21	16	37	2·2	26	17	43	3·6	10	11	21	3·4
	{ normal .....	824	782	1606	94·5	624	453	1077	91·4	295	260	555	91·2
	{ below normal	24	32	56	3·3	44	16	60	5·0	18	15	33	5·4
	{ bad .....	—	—	—		—	—	—		—	—	—	
Nose and Throat	{ mouth breathers	116	88	204	12·0	115	75	190	16·1	59	42	101	16·4
	{ tonsils: slen'ged	79	67	146	8·5	69	46	115	9·7	28	26	54	8·8
	{ tonsils: much „	49	48	97	5·7	45	39	84	7·1	16	18	34	5·5
	{ adenoids: slight.,	38	33	71	4·1	36	32	68	5·7	19	10	29	4·7
	{ adenoids: marked	15	22	37	2·1	14	16	30	2·5	5	5	10	1·6
External Eye Disease	{ No disease.....	849	814	1663	97·7	686	475	1161	98·5	318	280	598	98·3
	{ Blepharitis .....	13	10	23	1·3	6	7	13	1·1	2	5	7	1·1
	{ Conjunctivites ...	6	5	11	·6	1	3	4	·3	2	—	2	·3
	{ Corneal opacities	2	6	8	·4	1	1	2	·1	1	1	2	·3
	{ Other disease ...	—	—	—		—	—	—		...	—	—	
Ear Disease	{ No disease ...	855	817	1672	98·4	686	482	1168	99·02	321	279	600	98·6
	{ Otorrhœa .....	13	9	22	1·3	7	4	11	·9	1	4	5	·8
	{ Other disease (or obstruction	1	4	5	·3	1	—	1	·08	1	3	4	·6
Teeth	{ sound .....	205	211	416	24·4	123	95	218	18·5	39	42	81	13·3
	{ less than 4 decayed	375	377	752	44·4	379	283	662	56·1	174	163	337	55·3
	{ 4 or more decayed	289	242	531	31·2	192	108	300	25·4	110	81	191	31·4
Heart and Circulation	{ No disease ...	803	764	1567	92·1	666	439	1105	93·8	296	257	553	90·8
	{ Organic dis.	2	0	2	·1	2	4	6	·5	3	3	6	1·0
	{ Functional dis	3	2	5	·3	—	2	2	·1	—	2	2	·3
	{ Anæmia .....	61	64	125	7·3	26	41	7	5·6	24	24	48	7·9
	{ Other defect	—	—	—		—	—	—		—	—	—	
Lungs	{ No disease .....	796	774	1570	92·5	651	468	1119	94·93	301	265	566	93·1
	{ Bronc. & catarrh	56	39	95	5·6	31	7	38	3·2	18	13	31	5·0
	{ Tuberculosis .....	3	3	6	3·1	1	—	1	·08	—	2	2	·1
	{ „ suspected	10	9	19	1·2	5	2	7	·59	2	4	6	·9
	{ Other disease .....	4	5	9	·6	6	9	15	1·2	2	2	4	·6





Defects		Entrants				Leavers				Intermediates Aged 8—11 years.			
		Boys	Girls	Total	%	Boys	Girls	Total	%	Boys	Girls	Total	%
<b>Nervous System</b>	No disease.....	869	826	1695	99.8	691	485	1176	99.74	321	283	604	99.3
	Epilepsy .....	—	—	—	—	1	—	1	.08	1	—	1	.1
	Chorea .....	—	3	3	.15	1	—	1	.08	—	1	1	.1
	Other disease .....	—	1	1	.05	1	1	2	.1	1	2	3	.5
<b>Skin</b>	No disease.....	854	821	1675	98.65	677	484	1161	98.47	311	281	592	97.4
	Ringworm: Head...	1	—	1	.05	3	—	3	.25	1	—	1	.1
	„ Body...	—	—	—	—	—	—	—	—	—	—	—	—
	Impetigo .....	1	1	2	.1	4	—	4	.3	3	2	5	.8
	Scabies .....	—	2	2	.1	1	—	1	.08	—	1	1	.1
	Other disease .....	13	6	19	1.1	9	2	11	.9	8	2	10	1.6
<b>Rickets</b>	No disease.....	847	819	1666	98.1	687	486	1173	99.4	318	286	604	99.2
	Slight or well-marked .....	22	11	33	1.9	7	—	7	.6	5	0	5	.8
<b>Deformities</b>	No deformity	865	827	1692	99.6	688	480	1168	99.0	321	286	607	99.7
	Deformity present	4	3	7	.4	6	6	12	1.0	2	0	2	.3
<b>Tuberculosis Non-Pulmonary</b>	No disease...	868	830	1698	99.95	692	481	1173	99.45	321	285	606	99.5
	Glandular ...	1	—	1	.05	—	4	4	.3	—	—	—	—
	Bones and joints.....	—	—	—	—	2	1	3	.25	2	1	3	.5
	Other forms .....	—	—	—	—	—	—	—	—	—	—	—	—
<b>Speech</b>	Not defective.....	852	822	1674	98.6	683	480	1163	98.55	314	286	600	98.5
	Defective .....	13	5	18	1.0	1	2	3	.25	3	—	3	.5
	„ articulation	—	—	—	—	—	—	—	—	—	—	—	—
<b>Mental Condition</b>	Stammering .....	4	3	7	.4	10	4	14	1.2	6	—	6	1.0
	Normal .....	* —	—	—	—	677	477	1154	97.8	308	278	586	96.3
	Dull or backward	4	3	7	—	17	9	26	2.2	15	8	23	3.7
<b>Hearing</b>	Mentally defect.	—	—	—	—	—	—	—	—	—	—	—	—
	Good .....	822	803	1625	95.7	664	461	1125	95.35	310	265	575	94.5
	Moderate .....	35	19	54	3.2	22	16	38	3.2	8	13	21	3.4
<b>Vision</b>	Semi-deaf .....	11	7	18	1.0	7	7	14	1.2	4	8	12	2.0
	Deaf .....	1	1	2	.1	1	2	3	.25	1	—	1	.1
	Better than 6/12 in each eye	31	33	64	—	559	375	934	79.1	245	222	467	78.9
<b>Vision</b>	6/12 or worse in either eye ...	9	18	27	—	135	111	246	20.8	70	55	125	21.1
	Squint.....	24	30	54	3.1	27	18	45	3.8	17	14	31	5.0

\* No special examination of the mental condition was made in the case of children under 7 years of age and the condition was not recorded unless it was obviously very deficient.

§ For further particulars of these cases see p. 36

## Totals of Entrants, Leavers, and Intermediates.

## SPECIAL CASES.

Boys	Girls	Total	%	Boys	Girls	Total	Condition
1881	1594	3475	99·64	—	—	—	No disease .....
2	—	2	·05	4	5	9	Epilepsy .....
1	4	5	·14	2	6	8	Chorea .....
2	4	6	·17	1	5	6	Other disease ...
							<b>Nervous System</b>
1842	1586	3428	98·34	—	—	—	No disease .....
5	—	5	·14	22	6	28	Ringworm head .....
—	—	—	—	28	8	36	„ body.....
8	3	11	·31	21	17	38	Impetigo.....
1	3	4	·11	10	14	24	Scabies .....
30	10	40	1·1	18	19	37	Other .....
							<b>Skin</b>
1852	1591	3443	98·8	—	—	—	No disease .....
34	11	45	1·2	4	2	6	Slight or .....
							Well-marked .....
							<b>Rickets</b>
1874	1593	3467	99·4	—	—	—	No deformity .....
12	9	21	·6	6	5	11	Deformity present
							<b>Deformities</b>
1881	1596	3477	99·69	—	—	—	No disease.....
1	4	5	·14	6	11	17	Glandular .....
4	2	6	·17	—	6	6	Bones and joints
—	—	—	—	2	—	2	Other forms ...
							<b>Tuberculosis Non-Pulmonary</b>
1849	1588	3437	98·55	—	—	—	Not defective.....
17	7	24	·68	1	1	2	Defective articulation
20	7	27	·77	2	—	2	Stammering .....
							<b>Speech</b>
985†	755†	1740†	97·3†	—	—	—	Normal .....
32†	17†	49†	2·7†	9	16	25	Dull or backward...
—	—	—	—	7	2	9	Mentally defective...
							<b>Mental Condition</b>
1796	1529	3325	95·43	—	—	—	Good .....
65	48	113	3·2	—	1	1	Moderate .....
22	22	44	1·2	4	1	5	Semi-Deaf.....
3	3	6	·17	5	2	7	Deaf .....
							<b>Hearing</b>
835	630	1465	78·7‡	—	—	—	Better than 6/12 in each eye .....
214	184	398	21·3‡	14	33	47	6/12 or worse in either eye .....
68	62	130	3·7	13	16	29	Squint.....
							<b>Vision</b>

† These figures relate to leavers and intermediates only.

‡ Of the 1863 whose vision was examined; the % with defective vision of those inspected (3488) was 11·4.

This table is adapted, with a few modifications, from the model supplied by the Board of Education. The number with any physical defect reaches the large percentage of 67·7. The more important percentages of physical defects are 4·2% ill-nourished ; 14·0% mouth-breathers ; 15·0% enlarged tonsils ; 7·0% adenoids ; 29·0%, 4 or more carious teeth ; ·4% organic heart disease ; 6·8% anæmia ; 1·46% tuberculosis or suspected tuberculosis ; 1·3% semi-deaf or deaf ; 11·4% defective vision ; and 3·7% squint.

It is to be noted that many children suffer from more than one defect. The percentage where there was no adverse mark on the Inspection Schedule either for physical defect or for uncleanness or insufficiency of clothing or footwear was 23·6. The percentage placed on the following-up register indicates the number of children for whom active treatment should be obtained, or who should be kept under observation. The names of 29% of the infants, 41·9% of the senior and junior boys, and 42·3% of the senior and junior girls, were placed upon the register : the total percentage being 35·7% ; this compares with 44·6% in 1912.

Amongst those referred for special examination were 25 children in whom no physical defect could be found.

Whether it is due to good trade and general prosperity, whether to greater care being bestowed on children as a result of greater attention to national and individual health, whether ailing children are excluded more readily and not presented for routine examination, whether it is due to other causes, or whether it is just a chance occurrence cannot be stated, but the fact remains that this year there has been a marked reduction in the number of children found physically defective at the routine examinations.

The next table (page 23) is adapted from the large table previously issued in these reports, and gives the number examined in each department, the number and percentage with physical defects and the number of parents present. Undue importance is not to be attached to the percentage of defective children in each department, as many are based on small numbers.

*Irregular Attenders.* --During 1913, 77 children were absent, on medical grounds, for more than six months : particulars of these cases are kept in the "Chronic Sickness" Register. The commonest causes were :— Ringworm of the Scalp, 12 cases ; Rheumatic Fever, St. Vitus' Dance or Heart Disease, 8 ; Phthisis, 11 ; Tuberculous Glands or Spine or Suspected Tuberculosis, 10.



Department	Infants.				Boys				Girls.				No. of Special Cases presented
	No. examined	No. with physical defects	% with physical defects	No. of parents present	No. examined	No. with physical defects	% with physical defects	No. of parents present	No. examined	No. with physical defects	% with physical defects	No. of parents present	
St. Mary's .....	119	69	57·9	68	76	58	76·3	18	56	44	78·5	22	54
Bedford Road ....	190	119	62·6	131	115	85	73·0	46	87	61	70·1	48	49
Christ Church ....	191	120	62·8	139	86	65	75·5	42	60	47	78·3	22	47
Gray Street .....	205	106	51·7	120	92	69	75·0	44	97	63	64·9	65	84
Hawthorne Road ..	122	55	45·0	92	104	94	90·3	28	86	68	79·0	27	33
Linacre .....	150	98	65·3	107	72	52	72·2	20	61	42	68·8	34	29
St. James' .....	172	105	61·0	108	95	70	73·6	4	28	20	71·4	17	114
St. James' Select ..	31	23	74·1	19	7	7	100·0	2	15	14	93·3	3	17
St. John's .....	111	67	60·3	77	77	51	66·2	31	57	40	70·1	22	64
St. Winefride's ....	72	51	70·8	62	76	66	86·8	31	52	41	78·8	27	54
Salisbury Road ....	168	104	61·9	107	121	84	69·4	27	94	68	72·3	22	108
Orrell .....	168	107	63·6	128	96	72	75·0	43	79	57	72·1	48	57
Others .....	—	—	—	—	—	—	—	—	—	—	—	—	*52
Totals .....	1699	1024	60·2	1158	1017	773	76·0	336	772	565	73·1	357	762

\* including 44 from St. Alexander's School, Liverpool.

*Exclusion of Sick Children.*—1756 children were excluded by the School Medical Officer during the year in accordance with the provisions of Article 53 (b) of the Code.

The following table gives particulars of the 1,682 children who had returned before the end of the year and of the 32 who were excluded in 1912 but were still absent at the beginning of 1913. 74 children excluded during 1913 had not returned at the end of the year and are not included in the Table. The number of days absent does not include the days of the school vacations at Christmas, Easter or in Summer.

Disease.				No. excluded.	Total No. of days excluded.	Average No. of days excluded.
Scarlet Fever	..	Patients	..	84	.. 3,563	.. 42
Do.	..	Contacts	..	113	.. 2,008	.. 17
Diphtheria	..	Patients	..	18	.. 621	.. 34
Do.	..	Contacts	..	23	.. 419	.. 18
Enteric Fever	..	Patients	..	1	.. 78	.. 78
Do.	..	Contacts	..	10	.. 219	.. 21
Measles	..	Patients	..	348	.. 10,722	.. 31
Do.	..	Contacts	..	85	.. 1,883	.. 22
Whooping Cough	..	Patients	..	173	.. 7,495	.. 43
Do.	..	Contacts	..	78	.. 1,716	.. 22
Chickenpox	..	Patients	..	122	.. 2,562	.. 21
Do.	..	Contacts	..	16	.. 336	.. 21
Mumps	..	Patients	..	269	.. 5,918	.. 22
Ringworm	..	(Head)	..	36	.. 3,236	.. 89
Do.	..	(Body)	..	20	.. 329	.. 16
Phthisis	..	..	..	4	.. 728	.. 182
Anæmia	..	..	..	13	.. 316	.. 24
General Debility (including suspected tuberculosis)				.. 51	.. 3,405	.. 66
Conjunctivitis	..	..	..	17	.. 233	.. 13
Corneal Disease	..	..	..	2	.. 62	.. 31
Iritis	..	..	..	3	.. 81	.. 27
Bronchitis	..	..	..	11	.. 376	.. 34
Scabies	..	..	..	29	.. 852	.. 29
Eczema	..	..	..	38	.. 784	.. 20
Impetigo	..	..	..	42	.. 671	.. 16
Rheumatism	..	..	..	4	.. 46	.. 11
Chorea	..	..	..	3	.. 224	.. 72
Other Diseases	..	..	..	101	.. 975	.. 9
Totals				.. 1,714	.. 49,858	.. 29



The number of children formally excluded was considerably in excess of that in 1912. The average period of exclusion, 29 days, compares with one of 27 days in 1912. An epidemic of mumps and an increased number of cases of measles appreciably augmented the total number excluded.

The exclusion system is now practically complete for cases of Infectious Disease, but in other diseases the formal exclusions relate to a certain proportion only of all children absent through sickness. An exclusion certificate is issued only in respect of a child who has been seen by a member of the school medical staff, and quite a number of the absentees are given medical certificates to excuse them from school, by their private doctors. Heretofore, the exclusion certificates under Article 53 (b) have been sent to the School Attendance Department only, except those relating to Infectious Disease and Ringworm, which were also sent to the Head Teacher concerned. An arrangement is being made by which teachers will receive duplicates of all certificates relating to exclusion and re-admission.

Teachers have been excluded on the grounds of Infectious Disease in their families. The problem of the tuberculous teacher has had to be met.

All the children who are excluded from school, are kept under supervision, and an endeavour is made to secure appropriate treatment, so that they may return to school at the earliest possible date.

## HEIGHT AND WEIGHT.

There is a weighing machine and height measurer in each school.

The following table gives the average height and weight of the children inspected at the routine examinations distributed according to age and sex, and also the height-weight ratio expressed as the number of grammes for each centimetre of height. In all cases the children were weighed and measured without boots. The boys were weighed after their coats had been removed.

The sums of the heights and weights at each age are available for anyone undertaking an anthropometric survey.

## BOYS.

Age last birthday.	No. examined.	Height (in Centimetres.*)			Weight (in Kilograms†).			Height Weight Ratio.
		Anthropometric standard	Average height of Bootle Children.	Index No. taking standard as 100.	Anthropometric standard.	Average weight of Bootle Children	Index No. taking standard as 100	
3	5	92.4	8.1	95.3	14.9	13.3	89.2	150
4	46	98.0	97.2	99.1	16.2	15.8	97.5	162
<b>5</b>	<b>473</b>	<b>103.3</b>	<b>103.6</b>	<b>100.2</b>	<b>17.4</b>	<b>17.7</b>	<b>101.7</b>	<b>170</b>
6	266	109.2	108.0	98.9	19.1	19.0	99.4	175
7	79	114.3	112.7	98.6	21.1	20.4	96.6	181
8	55	120.3	119.3	99.1	23.5	22.8	97.0	191
9	69	124.7	122.6	98.2	25.3	23.9	94.4	194
10	84	129.2	128.4	99.3	27.3	26.4	96.7	205
11	115	134.6	131.2	97.4	30.1	28.3	93.6	215
<b>12</b>	<b>389</b>	<b>139.7</b>	<b>136.1</b>	<b>97.4</b>	<b>33.1</b>	<b>31.1</b>	<b>93.9</b>	<b>227</b>
13	290	142.2	139.9	98.3	35.0	31.9	91.0	228
14	15	147.8	144.4	97.6	38.2	35.7	91.0	247

\* 1 centimetre = .39 inch.

† 1 Kilogram = 2.2 lbs.

## GIRLS.

Age last birthday	No. examined	Height in Centimetres*			Weight in Kilograms†.			Height Weight Ratio.
		Anthropometric standard.	Average height of Bootle Children	Index No. taking standard as 100.	Anthropometric standard.	Average weight of Bootle Children	Index No. taking standard as 100.	
3	8	91.4	91.5	100.1	14.3	14.3	100.0	156
4	49	97.0	98.6	101.7	15.8	16.3	103.1	165
<b>5</b>	<b>431</b>	<b>102.6</b>	<b>102.4</b>	<b>99.8</b>	<b>17.0</b>	<b>17.1</b>	<b>100.5</b>	<b>167</b>
6	237	108.2	107.1	98.9	18.5	18.5	100.0	172
7	105	113.2	113.9	100.6	20.4	20.8	101.9	182
8	74	119.3	117.4	98.4	22.5	22.3	99.1	190
9	66	123.6	121.7	98.4	24.4	23.8	97.5	195
10	73	128.7	127.9	99.3	26.8	26.4	98.5	206
11	73	134.1	131.3	97.9	29.5	29.2	98.9	222
<b>12</b>	<b>279</b>	<b>141.2</b>	<b>138.0</b>	<b>97.7</b>	<b>33.5</b>	<b>32.5</b>	<b>97.0</b>	<b>235</b>
13	198	144.7	142.4	98.4	36.4	35.3	96.9	247
14	9	149.3	141.1	94.5	40.3	35.4	87.7	250

\* 1 centimetre = .39 inch.

† Kilogram = 2.2 lbs.

The standards taken this year are those prepared by Mr. Arthur Greenwood, after analysing the statistics relating to over 800,000 British children. The figures at two typical ages, namely, 5 years and 12 years,

are emphasised in the table by large type because they represent in each case a large number of units and the averages are hence a fairly reliable indication of the stature and weight of all Bootle children of those ages. The difference from the normal in the case of those aged 12, especially the weight of the boys, should give much food for reflection particularly when compared with the age 5 group where the children are about the standard.

*Mal-Nutrition.*—There must always be considerable difficulty in obtaining anything like a uniform standard of what shall be called “mal-nutrition.” The mere question of height and weight or even the relation of height to weight is not of itself a sufficient indication, though it must be regarded as of some value in deciding when a child is ill-nourished.

Thus, though height and weight were not used as the sole factors in deciding if a child were ill-nourished, but rather the general appearance and the condition of the muscular system, yet it was found as a fact that all children so recorded did show a marked deficiency in weight and in height-weight ratio and often in height also. The height-weight ratio in eighty children, classed as of “Sub-normal” nutrition was 15% below the average of all children.

The nutrition of only 2·89% of the children was recorded as excellent, 92·84% were regarded as normal and 4·27 as ill-nourished. The standard taken was by no means a high one. The entrants were better nourished than the leavers. Where sub-normal nutrition appeared to depend on lack of nourishment and not on some more or less definite disease, it was usually found that the children took advantage of the meals provided during the winter months.

An analysis was made of the records of eighty consecutive ill-nourished children examined in the early part of the year to find the cause, if possible, of their condition. No definite opinion could be arrived at, as in the majority more than one possible and potent cause could be found, and because of the difficulty of deciding how far, if at all, one apparent cause depended on another.

Thus social conditions as evidenced by unsatisfactory

clothing, dirt, etc., operated in .. .. 14 or 17·5%

Adenoids (including three cases where adenoids had

been removed but the symptoms persisted) in.. 12 „ 15·0%

Rickets in . . . . . 11 „ 13·7%

Tuberculosis or suspected Tuberculosis in . . . . . 9 „ 11·2%

A history or evidence of infantile weakness or disease,

e.g., infantile paralysis, in . . . . . 5 „ 6·2%

In 9, no apparent cause could be found, that is . . . . . 11·2%

In 7 others, the mucous membranes were pale and anæmic ; in 5 the children were mouth-breathers : one child was suffering from corneal ulceration, another from goitre, a third had a very septic mouth, one was convalescent from Whooping Cough and four had discharging ears.

Taking these causes separately.—

*Social Conditions.*—There can be no doubt that poverty and its accompaniments operate largely, indeed, are probably the most potent causes of mal-nutrition. The contrast between a poor and a good class school, between urban and rural children, is too striking to be overlooked. The following table shows the relationship between poverty and height and weight. As an index of the poverty of the children in attendance the percentages of those unsatisfactorily clad at the three best and the three worst schools are given. The average heights and weights of the children at age 5 in those schools are also shown.

School Numbers.	% with unsatisfactory clothing.	Average Boys Age 5		Average Girls Age 5.	
		Height.	Weight.	Height.	Weight.
3	·7	106·2	18·1	104·9	17·5
6	·8	105·3	17·9	104·4	17·7
2	2·0	104·4	18·3	103·2	17·3
<b>Average in all Schools</b>	<b>5·3</b>	<b>103·6</b>	<b>17·7</b>	<b>102·4</b>	<b>17·1</b>
1	8·5	101·7	17·0	100·	16·5
9	9·3	101·5	17·5	99·5	16·3
7	13·8	102·1	17·1	101·0	16·8



The relationship between deficient height and weight and poverty as thus measured is fairly obvious. The schools are arranged in order; the first three being those where the children were best and the last three where they were worst clad: but, it must be added that at age twelve, the relationship is not so marked, though it still exists.

Leaving the statistical side of the question, the heavy-eyed anæmic child with dry skin and hair, whose home is in a small, perhaps sub-let house in a back street, and the animated and well cared-for appearance of the children from homes where every care can be provided for them, must be a result of the environment. Certain diseases, e.g., measles and whooping cough, occur more frequently amongst the poorer class children. Tuberculosis is a known result of poverty. Whether the poor suffer more from adenoids than the rich is not definitely known. How these social conditions produce their results must be a matter for full enquiry.

On questioning the children and their mothers as to the home conditions, particularly feeding, one cannot fail to be impressed by the colossal ignorance and thriftlessness displayed, and to conclude that wrong methods of feeding have an enormous influence on the production of our ill-nourished children, who receive early in life a heavy handicap and often only reach adolescence to fall victims to tuberculosis or some other disease.

*Adenoids.*—As was found in last year's investigation, adenoids rank high as a cause of poor physique. This would appear to operate by the prevention of proper chest development and interference with aeration of the blood. In marked cases of adenoids the chest is very frequently found to be deformed. These children were, as a rule, much under weight.

*Rickets.*—The presence of rickets in the limbs, even when marked, is not always accompanied by under development. On the contrary, when only the limbs are affected, the thickened bones and squat appearance, give the child a somewhat burly look. When the ribs have been markedly diseased, the interference with general development is often very striking.

*Tuberculosis.*—It should be remembered that the under-development is often regarded as a symptom, even as the chief diagnostic sign of tuberculosis and the percentage attributed to this cause must be viewed accordingly

*Early Disease or Defect.*—In addition to such conditions as infantile paralysis the effects of which are generally permanent, there appears to be a considerable number of children, who, one might almost say, refuse to prosper physically. Their mothers report that they were “always delicate,” and at present they must be regarded as suffering from a congenital inability to assimilate nutriment properly.

#### CLEANLINESS AND CONDITION OF THE SKIN.

An analysis of the records of the routine inspections shows that under the heading “Cleanliness or otherwise of the body,” 94·4% of the children were recorded as “clean,” 5·09% were “somewhat dirty,” ·17% were “dirty,” and none “very dirty”; ·34% were flea-bitten. On examining the heads, nits were seen on 59 infant boys, or 6·3% of those examined, and in 462 infant girls or 52%; of the leavers, 6·4% of the boys had nits in their hair and 68·9% of the girls.

Nits were noted if present at all, but even so, it is a matter for great regret that a large majority of the girls in all the Elementary Schools in the Borough should be in such a state. In the cases of the boys, nits were found chiefly in those with long untidy hair, and generally there were only a few; it is also noteworthy that girls, whose dress and general appearance were clean and showed obviously that home care was far from lacking, yet had nits in their hair; this indicates that probably it is a very difficult matter to keep the hair of girls in Elementary Schools absolutely free from them, and it is probable that greater attention is required to keep the hair clean than in the case of adults; but, though it is difficult, it is by no means impossible, and the parents who do keep their children clean, have a right to expect the Local Authority to stimulate the mothers of dirty children to turn them out at least reasonably clean and not in such a state that others who may be seated near them and who use the same cloakroom, are contaminated.

The grosser forms of neglect are naturally found amongst the children of negligent mothers who often require for themselves and their homes as much attention as do their children.

A line of action is to single out the worst cases by systematic examination of all the children in a school, send notices to the parents, follow up the cases at home and if necessary, compulsorily cleanse the children and,



as far as possible, deal with the home. But this would require a large staff, particularly at first, and the School Nurse has only occasionally been able to deal with whole classes of children. In most cases there is no great difficulty in getting the children clean, once pressure is brought to bear on the parents, but it must be very difficult to keep them clean to judge from the almost invariable relapses which occur.

In some towns, the matter is dealt with by the establishment of shower baths, and facilities for cleansing, in the public elementary schools: the experience of the Day Industrial School where ample facilities for cleansing exist and are regularly used, is that children from the worst surroundings can be kept cleaner than those in our best ordinary schools where such facilities are absent.

Section 122 of the Children Act, though very useful, for dealing with the recalcitrant parents of extremely neglected cases, does not suffice to do much more than touch the fringe of the problem. During 1913, 127 notices were served on the parents of 50 children; 23 of these attended St. Mary's School; 8 St. James' (Junior Department); 7 Gray Street; 6 Salisbury Road; 4 Hawthorne Road, and one each Bedford Road and St. John's Schools: as the percentage of dirty children found, for example, in St. Mary's School is no greater than the number found in other schools, it is obvious that only in certain of them is full advantage taken of the procedure laid down in the Act. The statutory notice requiring the child to be cleansed within twenty-four hours was served in forty instances: forty-nine first notices were received from the teachers, but in nine, the children had been cleansed before inspection by the School Nurse. Sixteen children were satisfactorily cleansed by their parents as a result of a single notice; in twenty-four cases a "second" notice was received from the Head Teacher; ten of the children were properly cleansed by their parents under the supervision of the School Nurse and the remaining fourteen were cleansed at the Day Industrial School.

It is not generally known that a tedious statutory procedure is to be gone through before the children can be compulsorily cleansed, and I understand that teachers do not make full use of the provisions of the Act because of the cumbrous nature of the procedure which often involves the sending of several notices before the children can be cleansed by the

Authority. As the teachers are unwilling to come forward in cases of prosecution, it is necessary for the School Nurse to satisfy herself that the children are verminous or filthy before a statutory notice can be served, and it is frequently found that when scholars are sent home from school because of their dirty condition, they are cleansed by their parents before the School Nurse has had an opportunity of examining them ; then, a further notification must be received from the Head Teacher before the statutory notice can be served.

In several instances, children who had been cleansed at the cleansing station became dirty again, but for various reasons no prosecution was undertaken by the Education Authority this year : the worst cases of neglect are referred to the National Society for the Prevention of Cruelty to Children, and the mother of one of the children who had been compulsorily cleansed was sentenced to three months' imprisonment for child neglect as the result of a prosecution instituted by the Society. The procedure under the Committee's scheme was amended during the year, and now requires that the children who relapse after being compulsorily cleansed and whose parents should be prosecuted are to be referred to the School Medical Officer for examination before being sent home.

A difficulty has arisen in the fact that the clothes of the children are frequently so dilapidated that efficient disinfection is impossible. The School Canteen Committee have generously offered to provide suitable clothing in such cases. As a rule the bedroom and the bed-clothes of the child are disinfected in addition to its everyday clothes. The Bootle Health Society provided a new mattress for one family where the one in use had to be destroyed.

#### FOOTWEAR AND CLOTHING.

*Footwear.*—87·2% of the children inspected at the routine examinations wore satisfactory boots or shoes, and 3·8% wore clogs. The footwear of 6·5% was in need of repair, and 2·5% of the children were bare-footed. Boots were regarded as in need of repair when their condition was such that the child's feet would easily become soaked in wet weather and so militate against its health. The rougher usage to which boys' boots are subjected probably accounts for the fact that boys are much worse shod than girls.

During the year the School Canteen Committee supplied 650 pairs of clogs and 650 pairs of stockings to necessitous cases.

*Clothing.*—At the routine inspections 93·2% of the children were adequately clad. In 6·4% the clothing was said to be “Fair,” and in only 14 cases or ·4% was the clothing insufficient. In clothing also, boys are shown to be much worse cared for than girls; in part this is due to the custom which obtains that girls are more apt than boys to suffer not so much from lack of clothing as from a multiplicity of garments suspended about their persons, so that when an outer garment is torn, numerous under-garments fill the deficiency, but a boy whose trousers are torn is not so fortunate and he is recorded as insufficiently clad. In both footwear and clothing, infants are better cared for than older children.

#### SKIN DISEASES.

Fifty-five cases of skin diseases, excluding ringworm, were noted at the routine examinations: these include 11 cases of impetigo and 4 of scabies. Among those specially examined there were 38 cases of impetigo 24 of scabies, 3 of alopecia, 2 of urticaria, and 2 of herpes.

#### RINGWORM.

Five cases all of the scalp were seen at the routine inspections, and 64 namely, 28 of the body and 36 of the scalp, at special examinations. There was no school this year in which the disease was especially prevalent. The total number of new scalp cases at the routine and special examinations during 1913, was 41 compared with 52 in 1912. All the cases were excluded from school, and in the case of scalp disease, often a very prolonged absence is necessary. The teachers are particularly requested not to re-admit cases of ringworm until they have been certified to be free from infection. It is gratifying that only five cases were discovered at Routine Inspections and that all the others were picked out by the teachers for special examination.

#### EXTERNAL EYE DISEASES.

The number of children found to be suffering from external eye diseases was 72 at the routine examinations and 51 amongst the special cases. The latter included one of Interstitial Keratitis, whose absence

from school has extended over twelve months. During the last four months of the year, children suffering from eye disease or defective vision were referred to the Bootle Royal Hospital, where special arrangements have been made for them.

The following table gives the number of cases of eye disease amongst the 305 children who attended.

Eye Disease						Discharged after appropriate treatment	Under Treatment 31 Dec., 1913
Blepharitis	..	..	..	..	..	—	12
Trachoma	..	..	..	..	..	—	1
Chronic Conjunctivitis			..	..	..	4	17
Acute Catarrhal Conjunctivitis			..	..	..	—	4
Follicular		„		..	..	1	3
Phlyctenular		„		..	..	—	3
Corneal Ulceration	..	..	..	..	..	—	9
Nebulæ	..	..	..	..	..	—	2
Leueoma	..	..	..	..	..	—	1
Interstitial Keratitis..			..	..	..	—	2
Marginal	„	..	..	..	..	1	4
						6	58

In all cases of disease of the cornea, there is need for early and efficient treatment, lest the cornea should become scarred and cause permanent loss of sight which cannot be remedied by the use of spectacles.

#### SQUINT AND MUSCULAR DEFECTS.

130 cases of squint were reported at routine examinations or 3·7 of those inspected. There were 29 amongst the special cases. All such cases should be immediately referred for examination, as there is great



danger of blindness occurring in the affected eye, unless special treatment is undertaken : the longer the defect has been allowed to continue without treatment the worse is the vision in that eye and as the other eye may have fair or good vision the child can get on fairly with its work ; hence, it often happens that delay occurs in obtaining treatment. It is necessary to re-iterate that the popular idea that children grow out of a squint is a fallacy. Practically all cases discovered during the latter part of the year were referred to the School Children's Ophthalmic Department of the Royal Hospital.

### VISION.

The vision of all the routine cases in the Junior and Senior Departments was examined by Snellen's types. Each eye was tested separately. A spectacle frame with a movable opaque disc was used for this purpose. The following tables give the results of the examinations. The upper figure is the distance in metres between the child and the test type. The lower figure is the number of metres from which letters of a certain size should be seen by a person with average vision, i.e., 6/6 ; 6/18 means that the smallest type which can be seen from a distance of 6 metres should normally be seen at a distance of 18 metres.





The percentage of boys whose vision was worse than 6/12 with both eyes open was 11·3: the percentage of girls 11·4. In the table the vision of those with squint, who could read the test type is recorded, but in many cases of squint the child was illiterate and the amount of vision could not be recorded, although it was certainly defective.

In 47 special cases the vision was defective. Of the 398 routine cases where the visual defect in either eye was 6/12 or worse, 105 were wearing suitable spectacles at the time of examination: this is a marked increase on last year's figures. As a general rule, if 6/12 could not be read with each eye separately, the parent was asked to take the child to a doctor, or to the School Children's Ophthalmic Clinic, and have the eyes tested. In some cases, where symptoms of eye-strain were present, children with a less defect than the above-mentioned were recommended to seek treatment. All cases of squint receive similar advice, the urgency of the matter being impressed on the parents.

Since September, cases of defective vision were further examined and, if necessary, spectacles prescribed at the School Children's Ophthalmic Clinic of the Royal Hospital. The children are examined by Mr. R. E. Harcourt, M.D., F.R.C.S., who is assisted by the School Nurse. 305 children attended and the number of visits paid by them was 841. Before the end of the year, spectacles had been prescribed, or the appropriate treatment given, for 140, 70 of whom were routine, and 25 special cases referred by the School Medical Officer; while the remaining 45 were Bootle school children who visited the Hospital of their own accord; now, almost all the cases attending there are specially recommended and have had appointments made by the School Nurse.

The following is a table giving the nature of the defects found:—

						Discharged after appropriate treatment,	Under treatment, Dec. 31st, 1913.
Eye Disease	..	..	..	..	..	6	58
<i>Defective Vision.</i>							
Simple Hypermetropia	..	..	..	..	..	32	17
„ Hypermetropic Astigmatism	..	..	..	..	..	17	10
Compound	„	„	..	..	..	34	24
Mixed Astigmatism	..	..	..	..	..	2	3
Simple Myopia	..	..	..	..	..	10	5
Advanced	„	..	..	..	..	—	2
Simple Myopic Astigmatism	..	..	..	..	..	12	1
Compound	„	„	..	..	..	—	2
Odd Eyes	..	..	..	..	..	1	2
Awaiting further examination	..	..	..	..	..	—	13
<i>Muscular Defects.</i>							
Strabismus Internal	..	..	..	..	..	24	27
„ External	..	..	..	..	..	—	1
Nystagmus	..	..	..	..	..	2	..
Totals	..	..	..	..	..	140	165

All the cases of internal squint were suffering from hypermetropia of varying degrees.

In 77 of the children, the error of refraction was over 5 dioptries (a very serious amount). The following is an analysis of the nature of the defect in these cases.

Discharged.	Under Treatment.
Simple Hypermetropia .. 9	Simple Hypermetropia .. 4
Simple Hypermetropic Astigmatism .. .. 4	Simple Hypermetropic Astigmatism .. .. 2
Compound Hypermetropic Astigmatism .. .. 20	Compound Hypermetropic Astigmatism .. .. 20
Myopia .. .. 3	Myopia .. .. 2
Strabismus Internal .. .. 3	Strabismus Internal .. .. 10
39	38

In many of these cases, normal vision cannot be attained even when powerful spectacles are worn.

Teachers should refer to the Inspection Clinic all cases in which a child,—

- (1) is unable to see writing on the blackboard from the back row ;
- (2) holds a book or sewing nearer the eyes than does a normal child ;
- (3) has a squint even if it is only slight and occasional ;
- (4) has soreness of the eye or headache after near work.

The following points in school lighting should be noted :—

1. *Every* desk should be well lighted.
2. The light should come from the left side and not directly from the front.
3. All kinds of glazing or obscuring which diminish light should be avoided : there should be sufficient window area of clear glass.
4. Only coarse needlework on light material should be executed in artificial light in Elementary Schools.
5. The blackboard should be dull and should not reflect.

In conclusion the steps to be taken to prevent serious defective vision may be enumerated ; they are—

- (1) To eliminate eye-strain by (a) securing for all school books type which conforms to the standard of the Committee of the British Associ-

ation, and (b) not allowing lessons such as sewing and drawing, which require close application, to be given when the light is dull.

(2) There should be early treatment of any defect.

### TEETH.

The following table shows the results of the routine examinations :—

Age	Number examined.		With good teeth.		Number with 1-3 bad teeth.		with 4 or more bad teeth.		Percentage			
									with good teeth.		with 4 or more bad.	
	Ma'es.	Females	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
3	5	8	3	3	1	5	1	—	—	—	—	—
4	46	49	17	17	22	22	7	10	36·9	34·7	15·2	20·4
5	473	431	130	129	206	202	137	100	27·4	29·9	28·9	23·2
6	266	237	43	49	109	102	114	86	16·1	20·6	42·8	36·2
7	79	105	12	13	37	46	30	46	15·1	12·3	37·9	43·8
8	55	74	3	7	28	37	24	30	5·4	9·4	43·6	40·5
9	69	66	10	13	32	36	27	17	14·5	19·7	39·1	25·7
10	84	73	9	12	49	40	26	21	10·7	16·4	30·9	28·7
11	115	73	17	10	65	50	33	13	14·7	13·7	28·6	17·8
12	389	279	75	52	204	161	110	66	19·2	18·6	28·2	23·6
13	290	198	44	43	169	114	77	41	15·1	21·7	26·5	20·7
14	15	9	4	—	6	8	5	1	*	*	*	*
	1886	1602	367	348	928	823	591	431	19·4	21·7	31·3	26·9
	3488		715		1751		1022		20·4		29·3	

\* Inferences from these percentages would be unreliable owing to the small numbers involved.

The condition of the teeth continues to be very unsatisfactory. In the main, girls have better teeth than boys, but the difference is not marked. A certain number of children are now found to be



using tooth-brushes fairly regularly, but this, though a marked improvement, is not alone sufficient to preserve the teeth ; the suitability of the diet and the arrest of decay of the teeth at its onset, being not less important. Not a dozen of the 3488 children examined showed any evidence of repair work being done to decayed teeth, and when one remembers the cost to the parents of such repair work (in the absence of a Dental Clinic) the hopelessness of suggesting such treatment is apparent. The average parent of the elementary school child cannot be made to realise that money expended in the saving of teeth is probably a sound investment and are astonished when it is suggested. They think only of extraction, as the benefits of conservative treatment are quite beyond their experience. Even by extraction much good can be done, as the presence of decayed milk teeth frequently leads to mal-position and consequent decay of the permanent teeth.

#### NOSE.

Twenty-eight defects were reported at routine examinations. The majority were cases of nasal discharge associated with adenoids and enlargement of the turbinals.

#### ADENOIDS, MOUTH-BREATHERS, ENLARGED TONSILS.

At the routine inspections 7% had symptoms of Adenoids and in 2.2% these were well marked ; 14.1% were mouth-breathers. 15.1% had enlarged tonsils ; in 6.1% of the total examined, the enlargement was more than trifling.

The following table gives particulars of these cases :—

Age	Number exam- ined	Adenoids.				Mouth Breath- ers	Percent- age.	Tonsils.			
		Small amount	Definite	Marked Opera- tion required	% with Adenoids			Slightly En- larged,	Much En- larged,	Very much Enlarged	% with Enlarged Tonsils.
3	13	—	—	—	—	1	—	1	—	—	—
4	95	2	—	—	2·1	3	3·1	10	2	1	13·6
5	904	46	11	6	6·9	115	12·7	83	37	16	15·0
6	503	20	12	—	6·3	54	10·7	40	23	8	14·1
7	184	3	6	2	5·9	31	16·8	12	8	2	11·9
8	129	6	3	1	7·7	25	19·3	12	2	6	15·5
9	135	6	1	2	6·6	21	15·5	10	7	0	12·5
10	157	6	3	—	5·7	31	19·7	18	3	3	15·2
11	188	11	0	0	5·8	24	12·7	14	7	6	14·3
12	668	43	9	5	8·5	106	15·8	62	31	14	16·0
13	488	25	10	6	8·4	82	16·8	48	27	11	17·6
14	24	—	—	—	—	2	—	5	1	—	—
Total	3488	168	55	22	7·0	495	14·1	315	148	67	15·1
Per- cent- age		4·8	1·5	·6				9	4·2	1·9	

In addition to the above, 25 cases of enlarged tonsils, and 46 of adenoids were seen at the special examinations.

Most of the 7% suffering from adenoids are also included in the 14·1% who are mouth-breathers.

The effect of the presence of adenoids on the general physical development of the child has already been commented upon and the mental effects are also now well recognised. It was noted that tonsillar enlargement and adenoid growth do not necessarily progress *pari passu*, although they may be associated. Some of the healthiest looking children have tonsils

which almost meet, and it is surprising to see how little apparent effect such enlargement may have. The condition of the tonsils is probably a better indication for treatment or otherwise than their size, for when one contrasts the flabby purplish look of the unhealthy tonsil and the firm red appearance of those whose possessors show no ill effects, there is no such doubt as to the desirability of recommending surgical treatment in every such case.

When a child is suffering from adenoids, one can usually point to the evil effect already present as the result of the growth. The practical constancy in the percentage of adenoids and enlarged tonsils at all ages effectually dispels the current belief that the younger children will grow out of them, at all events during school life.

Perhaps the desire to believe accounts for the impression one receives that the persistence in mouth-breathing exercises and the better use of handkerchiefs, is already having effect. One fancies that a difference can be noted in favour of schools where these points are most attended to. The children are all now much on their guard against mouth-breathing, a fact which makes the diagnosis of adenoids less easy and which renders the examination of the chest distinctly more difficult from the production of adventitious sounds in the nose which are audible during the examination of the chest.

#### ENLARGED GLANDS.

Some enlargement of the glands of the neck is common, but it is rare to find marked enlargement. In 5·3% of the children, the submaxillary lymphatic glands were slightly enlarged and in ·14% the enlargement was readily visible or palpable. The anterior cervical glands were noted to be enlarged in ·42%, and the posterior in 1·58% of the children. The principal causes of enlarged glands are carious teeth, enlarged tonsils and adenoids, verminous heads, discharging ears, and sores on the head and face.

#### EAR DISEASE AND HEARING.

The following table shows the result of the routine inspections :—

Ages	Number examined.		Suppurative ear disease,		Moderate.		Hearing.		Deaf.	
	Males	Females	M.	F.	M.	F.	M.	F.	M.	F.
3 to 5	524	488	4	4	19	9	5	3	1	—
6 „ 8	400	416	9	7	17	13	8	7	—	1
9 „ 11	268	212	1	2	7	10	2	5	1	—
12 „ 14	694	486	7	4	22	16	7	7	1	2
	1886	1602	21	17	65	48	22	22	3	3
			1.1%	1.0%	3.4%	3.0%	1.1%	1.3%	.1%	.1%
	3488		1%		3.2%		1.2%		.1%	

Nine of the special cases were suffering from discharging ears : seven were deaf, 5 semi-deaf, and in one the hearing was moderate. Just over 1% of the children at routine inspection were found to be suffering from discharging ears. This is another condition to which parents pay practically no attention, indeed, in the younger children it is regarded as a normal occurrence. On enquiring into history regarding previous ear discharge, a common answer is “ Yes,” implying “ Of course.”

4.5% of the routine cases showed some defect of hearing and in 1.3% this defect was sufficiently marked to prove a serious handicap to the child. A conversation test with a further watch test in defective cases, were the means employed to decide the presence and extent of defective hearing. A forced whisper test is now being tried with satisfactory results.

#### SPEECH.

Twenty-seven cases of stammering were noted at the routine inspections, 24 of lisp and other forms of defective articulation.

#### MENTAL CONDITION.

Of the 1973 children over the age of six years, examined at routine inspections, the mental condition of 56 or 2.8% was adversely reported upon. A small proportion, 1.1% were placed in the “ fair ” category,



probably from hesitation to report adversely on a child seen only once and for a few minutes. The "dull" and "very dull" groups together amounted to 1.7%, probably representing in the children so recorded a real lack of normal intelligence. No routine case was recorded as *feeble-minded*, using the word in its technical sense, that is, those who are included in the terms of the following definition, "that is to say, in whose case there exists from birth or from an early age, mental defectiveness, not amounting to imbecility, yet so pronounced that they require care, supervision and control for their own protection and for the protection of others, or in the case of children that they, by reason of such defectiveness appear to be permanently incapable of receiving proper benefit from the instruction in ordinary schools." Excluding the special class at Gray Street School, there were 21 defective and backward children amongst those presented for special examination: 8 were classed as feeble-minded; one was epileptic and another a moral imbecile. Two of the children were excluded permanently and four indefinitely: two still attend an ordinary school as there is no special arrangement for their education. In two cases of epilepsy in which the mental condition did not amount to feeble-mindedness, there were signs of mental instability.

A circular letter was addressed to the Head Teachers, asking them to supply particulars required under the headings "Dull or Backward Children," in Form III of the Board of Education (see p 61). The replies indicated that 363 children (207 boys and 156 girls) were retarded two years as judged by the standard in which they were and the standard in which children of their age ought to be: 60 (35 boys and 25 girls) were retarded three years and 18 (6 boys and 12 girls) four years. It was in order to obviate the undesirability of older children being in the same class as much brighter girls some years their junior, that the two special classes for backward girls were established in Gray Street and Orrell Schools. Twenty-five children in the class at Gray Street were examined by the tests of Binet and Simon, which have been constructed so that a child of normal mental capacity can carry out the tests for his own age, but if mentally retarded, the child can only attain to those of the earlier age, which represents the degree of development of his intelligence. The tests are of general intelligence and are to a certain extent independent of book or school learning. The girls were



aged 12 or 13 years, and according to the tests, the numbers of years' retardation was—

1	2	3	4	5	6	Years
1	6	12	4	1	1	Number of cases.

In three of the cases the children appeared to be well-equipped both physically and mentally and the retardation was due to prolonged absence from, and frequent change of school: the father of one was employed in a travelling show. In sixteen, some important physical defect was present: in seven of these, some mental abnormality was associated with the physical defect, and in the remaining nine, the physical defect and consequent absence from school, appeared to be the sole cause of the retardation. It is remarkable that amongst these sixteen children, there were nine in whom there was unmistakeable evidence of the presence of adenoids: in several, the growth had given rise to discharging ears and defective hearing. In six other children, as well as in two of the adenoid cases, the vision was defective, these included one case of corneal ulceration. One child had a cleft palate. Several defects were found in many of the children, for example, defective vision and rheumatism. The influence of impaired vision or hearing on normal mental development is marked.

In six girls the retardation was due almost entirely to the mental condition, but in one case only was the defect so great as to warrant the child being classed as feeble-minded.

#### HEART AND CIRCULATION.

At the routine inspections 14 cases (or 4%), of organic heart disease were noted; 9 were undoubtedly the result of post-natal disease and in all the mitral valve was affected. In five cases the children had suffered from rheumatism and in one from chorea (St. Vitus' Dance). The importance of rheumatism and the significance of growing pains and chorea as grave rheumatic affections of childhood, is not sufficiently realised. The attention of parents and teachers was drawn to these matters, and to the special requirements of individual children, where advice as to physical exercises and future employment was needed. In five cases the lesion appeared to be pulmonary stenosis of congenital origin. Amongst the special cases were 10 of organic heart disease; 1 was congenital pulmonary stenosis and 9 were mitral disease. In four of the latter, there was a definite

history of rheumatism or chorea. In practically all the cases the lesions were well compensated. Ordinary physical exercises may be allowed in most cases of heart disease, who are well enough to attend school, but trunk bending and running must sometimes be omitted, and always when the child exhibits breathlessness and signs of fatigue. It must be emphasised that because of their great liability to heart disease, children who suffer from rheumatism, growing pains and St. Vitus' Dance, and who are not under medical care, should be referred for special examination.

### LUNGS.

164 (or 4%) of the children inspected at routine examinations were found to be suffering from bronchial catarrh or bronchitis. 95 of these or 5.6% of the 1699 examined, occurred in infants. Mention is made of phthisis under the heading Tuberculosis.

### NERVOUS DISEASES.

Thirteen defects were discovered at routine inspections, including two cases of epilepsy, 5 of chorea and 4 of infantile paralysis. At the special examinations, 23 cases were seen; 9 were of epilepsy, 8 chorea, and 6 infantile paralysis. Amongst the epileptic cases were 5 in which the fits were definitely those of *grand mal*. In three of these cases there was evidence of mental impairment: 4 were excluded from school, 2 permanently and 2 indefinitely. In 8 of the cases of infantile paralysis, one leg was affected: in one, both legs and in the other one arm; one wore iron supports on both legs; one was compelled to use a crutch constantly and all were more or less permanently incapacitated.

### TUBERCULOSIS.

*Pulmonary.*—At the routine examinations, 5 children were found to be suffering from active Pulmonary Tuberculosis, while 36 were provisionally classed as “doubtful.” On further examination, 4 of the latter were found to have phthisis, making a total of 9 or .25% of the children examined at routine inspections; but, it may be added that in none of these was it possible, owing to inability to obtain a specimen, to confirm the diagnosis by finding Tubercle Bacilli in the sputum, and as cutaneous tuberculin tests give no reliable indication of the degree of activity or otherwise, of a tuberculous focus in children of school age (Morland's modification,

however, has not been used) it is very difficult to be certain of the tuberculous nature of the pulmonary lesion even in these 9 cases where physical signs of consolidation of a portion of the lung persisted : it is possible that they may be cases of chronic pneumonia.

Twelve of the doubtful cases were, at the end of the year, thought to be free from active disease, while no definite conclusion was arrived at in the remaining 20. With regard to the last group, 4 were lost sight of ; no trace of them being found either at home or in school. It is typical of the type of child that 10 of them were absent from school when the visit was made for re-inspection ; such children, though usually having no definite evidence of tuberculosis of the lungs or elsewhere, are constantly ill from " colds " or other apparently trifling complaints ; another noteworthy point about these suspected cases is their remarkable recuperative powers ; and the improvement, after even a short absence from school, is often marked, particularly in the younger children : the usual signs found in these suspected cases are dry sounds, not definitely localised, in the lungs, associated with malaise, loss of appetite, lassitude, etc. ; some showed loss of weight for a long period, while a few increased in weight : definite localising signs were always wanting.

Of the special cases, 21 were found to be suffering from what was regarded as active tuberculosis of the lungs, namely 7 boys and 14 girls. There were 53 cases of doubtful tuberculosis, of which, 11, on further examination, were classed as definite and are included in the above 21. Of the remaining 42, 9 were cases which had been regarded as suspected two or more years ago, but the children are now well and able to return to school. Seven others were decided to be not suffering from tuberculosis, while the remaining 26 were at the end of the year still regarded as suspicious.

The 30 cases regarded as suffering from definite tuberculosis of the lungs may be classed as follow :—

Group A. 7 were early cases (all special) : in 2 the onset had been acute. The smallness of this group is probably accounted for by a hesitation to label the case as one of " phthisis " until definite evidence has been found, and many of the 46 cases which are still regarded as suspected tuberculosis might perhaps be included in this group.

Group B. In 11, the disease was chronic in character (4 routine and 7 special cases).

Group C. 12 of the cases were advanced and most probably infectious : they were all excluded from school. They comprised 5 routine and 7 special cases.

A list of school children who have lived in contact with a notified case of tuberculosis is kept, and the children are examined at the next visit of the Medical Inspector to the school. As many cases of tuberculosis appear to arise after measles and whooping cough, all children who have had either of these diseases and remain debilitated and in a feeble state of health for any considerable time, should be presented for special examination.

*Osseous.*—At the routine inspections, 6 cases of osseous tuberculosis were found. In 2, the elbow joint was affected ; in one case the disease was distinctly active, while in the other, although the bone lesion appeared quiescent, there was some evidence of involvement of the lungs ; 2 were cases of spinal disease; both were under treatment and one was wearing a splint ; they appeared to be well on the way to recovery. Another suffered from tuberculous knee joint which was being treated in a splint and was making good progress : the other was a case of tuberculous tarsus and the disease appeared quiescent : these six cases represent  $\cdot 17\%$  of the total number examined.

Amongst the special cases were six of osseous tuberculosis; in every case the hip joint was involved : 3 appeared to be in an early stage ; one being very early : in the other 3 the disease was apparently quiescent, but in two the general health was poor and they were excluded from school for this reason.

*Glandular.*—5 cases of tuberculosis of the glands were found at the routine inspections : in each case the glands of the neck were involved : they were  $\cdot 14\%$  of the total number inspected. There were 17 cases of glandular tuberculosis amongst the special cases ; here also, the glands of the neck were those involved in every case. Six of them had been operated on at varying periods previous to examination, but in all, the presence of enlarged glands could still be detected.

*Other Forms.*—One of the special cases was suffering from Lupus Vulgaris and another from tuberculous peritonitis



During the year the deaths of 15 children of school age were certified to be due to tuberculosis : these include 4 from phthisis. They were all under the care of private practitioners : three of the phthisis cases and one of tuberculosis peritonitis, had been presented for special examination,

#### RICKETS AND DEFORMITIES.

At the routine inspections, 45 children or 1·2% were found to be suffering from the results of rickets. In 33 the limbs were affected : in 9 the body was obviously affected, and in seven the skull. There were 21 children suffering from deformities : in 3 the deformities were congenital in origin ; 2 were tuberculous (quiescent), and 4 the result of infantile paralysis.

#### REVIEW OF ACTION TAKEN TO PREVENT THE SPREAD OF INFECTIOUS DISEASES.

The methods detailed in previous reports are still in use.

*Scarlet Fever.*—The number of cases notified amongst children of school age was 87. There was no excessive prevalence in any of the schools.

*Diphtheria.*—During the year, 20 cases of Diphtheria occurred in children of school age. In no school was there any definite evidence of school infection.

*Measles.*—During the year, 343 cases of measles occurring in school children were brought to the notice of the School Medical Officer. The epidemic which commenced in the Autumn of 1912 continued throughout the Spring of 1913, and the great majority of the cases occurred before the end of May. During the year there were 33 deaths from measles, but only two of these occurred in children of school age : 5 were children under 1 year ; 14 of those aged 1 year, and 12 between the ages of 2 and 5 years. This shows that although large numbers of children may be absent from school because of measles, yet the disease is not quite so serious in school children as in those below school age.

Each case was visited, and all children who lived in the same house and attended an infants' department, whether they had previously suffered from measles or not were excluded from school. Contacts of any age who had not had measles were also excluded, but children over the age of seven who had had the disease were in most cases allowed to attend. This course

was adopted, because it is believed that the virus of measles, though infectious from person to person, is very short-lived when outside the human body.

The practice is in accordance with that generally adopted, and there is no reason to suggest a modification of the method. Further particulars on the subject of exclusion for this disease can be found in last year's report. It was necessary to close two Infants' Departments : that of the Bedford Road Council School was closed on the afternoon of February 11th, when 34 cases of measles and 8 contacts were absent, and the attendance was 65% of those on the school roll. It reopened on the morning of March 3rd. 34 children developed the disease whilst the department was closed, but no information concerning them was available until the school re-opened. This emphasises the dependence of an early knowledge of the cases, and consequent ability to advise isolation, etc., on the schools being open. Five cases occurred during the fortnight after the re-opening : these children had evidently been infected whilst the school was closed. During the school closure, children play together in the street and come into just as close contact with each other as they would if they were at school ; but the danger is not quite so great, because they probably do not come into contact with *so many* children as they do at school, unless they visit Picture Palaces or other places where children congregate in large numbers.

The Infants' Department of the Orrell Council School was closed on April 10th, when there were 11 cases of measles, 20 of whooping-cough, and 10 contacts absent from school : the attendance was 64% : 26% of those then in attendance had not had measles, and 45% had not had whooping-cough. The school was re-opened on April 28th. During the closure, four cases of whooping-cough and none of measles occurred. Within fourteen days of re-opening, 6 cases of whooping-cough were notified. The Superintendents of the Sunday Schools in districts where the day schools were closed were asked to close the classes attended by children under seven years for the same period as that for which the day schools were closed, and they did so.

*Whooping-Cough.*—During 1913, 37 deaths from this disease occurred ; all but two were of children below school age. 170 cases in school children were reported, and these together with 60 contacts were excluded. As in

the case of measles, contacts who are on the roll of a *Senior* Department are allowed to attend school *if they have had the disease* : all contacts in Infants' Departments are excluded whether they have had the disease or not. The largest number of cases occurred in the Orrell Council School and as related above, it was necessary to close the Infants' Department for just over a fortnight.

*Mumps*.—An extremely large number of cases of mumps occurred amongst the scholars of Gray Street Council School, and at one time the attendance in the Infants' Department was only about 60%. Owing to the very long incubation period of the disease and its comparative harmlessness, it was not considered necessary on public health grounds to close the school. Only the actual cases were excluded, and not the contacts.

*Chickenpox*.—There occurred amongst school children, 127 cases of chickenpox and these together with 18 contacts were excluded.

The following table gives the schools from which cases, and contacts of cases, of measles and other infectious diseases were notified.

	Measles			Chickenpox			Whooping Cough			Mumps
	Cases	Con- tacts	Total	Cases	Con- tacts	Total	Cases	Con- tacts	Total	Cases
Salisbury Road . . . . .	22	15	37	30	6	36	23	11	34	19
Hawthorne Road . . . .	47	11	58	—	—	—	10	3	13	—
Linacre Lane . . . . .	56	12	68	21	1	22	13	4	17	15
Bedford Road . . . . .	92	14	106	9	3	12	10	—	10	1
Gray Street . . . . .	33	13	46	15	2	17	4	3	7	213
St. James, . . . . .	15	13	28	23	—	23	31	11	42	4
St. Mary's . . . . .	37	5	42	4	—	4	13	2	15	5
Christ Church . . . . .	2	1	3	—	—	—	—	2	2	—
St. John's . . . . .	8	9	17	4	1	5	9	11	20	4
St. Alexander's . . . . .	4	—	4	—	—	—	—	—	—	—
St. Winefride's . . . . .	3	2	5	10	2	12	10	5	15	—
St. James' Select . . . .	2	—	2	4	2	6	6	1	7	—
Orrell . . . . .	22	7	29	7	1	8	41	7	48	7
Totals . . . .	343	102	445	127	18	145	170	60	230	268
No. of visits & re-visits	759			194			415			332

The total number of visits paid to all cases of minor infectious diseases, was 1,700.

### OTHER DEFECTS OR DISEASES.

At the routine inspections, 99 cases of children suffering from "other defects" were reported. Under this heading are included hernia, nævi, tumours, abscesses, etc. At the special examinations, there were 74 cases of other diseases, including 2 goitre, 3 rheumatism, 1 hernia, and 2 thyroid insufficiency.

*Deaths.*—The deaths of 53 children of school age occurred during the year:—4 were the result of phthisis; 4 tuberculous meningitis; 7 other tuberculous diseases; 5 pneumonia; 5 organic heart disease; 1 rheumatic fever; 2 each scarlet fever, measles and whooping-cough; 3 diphtheria; 2 meningitis; 1 appendicitis, and 4 accident.

## II. "Following-up" and Medical Treatment.

As such a large part of last year's report was devoted to this section, it is not proposed to go fully over the same ground again this year, but simply to give statistics of work done, and to draw attention to their more salient features and to the most pressing needs of the future. The School Nurse commenced duty on January 1st, 1913, but she unfortunately contracted diphtheria three weeks later, and this caused her absence for some five weeks. During the year she paid 3,174 visits to the homes of children whose names appear on the following-up register, and 778 visits were made by Voluntary Workers. She re-tested the vision of 61 children at the Town Hall, and from September attended the School Children's Ophthalmic Clinic at the Royal Hospital, two afternoons each week.

The School Nurse was present at 41 re-inspections at the schools. In a few cases of severe impetigo, she visited the children in their homes and applied the necessary treatment every day until the children had improved. She also supervised the cleaning of verminous children. The work to be done is so great, that one nurse is quite insufficient for the task, and I thank the Committee for acceding to the recommendation to appoint another. It is intended that she shall devote a portion of her time to the treatment of minor ailments in school children, and it must not be forgotten that provision will have to be made of a room or rooms where this treatment can



be applied. All elementary school children who live in Bootle are "followed-up" by the Bootle officers, whether the children attend Bootle or out-district schools,—a considerable number of Bootle children attend St. Alexander's School, Liverpool.

A card-index system of keeping records of children whose names are on the Following-Up Register, has been in use by the School Nurse throughout the year: a card is filled in for each defect noted in the register and the results of re-examinations, following-up visits, and treatment are recorded thereon. A School Care Committee for Hawthorne Road School has lately been established and will receive every possible assistance from the officers of the School Medical Service.

Statistics relating to "following-up" are given in the table.

Defect	No. of defects for which treatment is required	Transferred from 1912	Added during 1913	At School					Left School			Percentages		
				Treated					Under treatment	Without treatment	No report	Treated	No treatment	No Report
				Cured or remedied	Improved	Unchanged or under observation	No report	No treatment						
Dirty conditions ...	390	312	78	110	90	103	6	—	48	12	21	90·0	3	6·9
Ringworm ...	125	59	66	106	19	—	—	—	—	—	—	100	—	—
Scabies ...	26	4	22	15	8	2	—	—	1	—	—	100	—	—
Other Skin Diseases	143	11	132	104	22	13	—	—	1	—	3	97·8	—	2·0
External Eye Disease ..	175	47	128	60	78	24	4	—	—	3	6	92·5	1·7	5·7
Spectacles required:														
(a) Strabismus ...	184	77	107	85	30*	—	2	54	—	—	13	62·5	29·3	8·1
(b) Failure to read test type ...	487	195	292	196	86*	4†	11	115	1	—	74	58·9	23·6	17·4
Tonsils & Adenoids	329	176	453	133	118	344	10	11	10	3	—	96·1	2·2	1·5
Mouth Breathers...	353	295	58	162	68	72	5	—	5	10	31	86·9	2·8	10·1
Ear Disease ..	232	92	140	65	38	96	7	—	7	3	16	88·7	1·2	9·9
General debility & suspected Tuberculosis ...	368	286	382	116	206	229	12	14	26	2	63	86·3	2·3	11·2
Tuberculosis—pulmonary ...	62	32	30	—	53	8	—	—	1	—	—	100	—	—
Tuberculosis—non-pulmonary ..	42	6	36	2	17	22	—	—	1	—	—	100	—	—
Various ...	522	155	367	168	104	169	20	—	21	—	40	88·4	—	11·4
Totals ...	4038	1747	2291	1322	937	1086	77	194	122	33	267	—	—	—
Percentages	—	—	—	32·7	23·2	26·9	1·9	4·8	3	·8	6·6	85·8	5·6	8·5

\* Attending Hospital

† Glasses not necessary

The total number of defects for which treatment was required was 4,038, compared with 3,254 during 1912. The percentage cured or remedied was 32·7, compared with 29·8 in 1912, and the percentage of the total who had secured some treatment was 85·8 compared with 83·7. On the other hand the percentage untreated has fallen from 11·7 to 5·6 : all of which is a tribute to the value of the work done by the School Nurse. Of the 194 untreated and still at School, 169 were cases awaiting treatment for defective vision. Within a few months, all the outstanding cases will have been dealt with at the Royal Hospital.

Of the 300 who have left school and are in the "no treatment" or "no report" groups, it is probable that the Certifying Factory Surgeon will have caused some of the defects to be remedied by refusing to grant a certificate of fitness for work in a factory until the defect is remedied.

Four cases of tuberculosis, 1 of rheumatism, 1 of heart disease, and 1 of mental defect, who were on the list, died during the year, and are not included in the table. The defects under the heading "no report" occurred in children who were absent at the time of re-examination and the School Nurse could not get into touch with them because of their change of address or other reason.

*Dirty Conditions :* Only marked cases of uncleanliness are included here, and their names are kept upon the list for frequent visitation until the improvement is material and likely to be permanent.

*Ringworm.* It is gratifying that all the children received some treatment, though in many cases it was spasmodic and not very effective. Ringworm of the body is readily cured, but when ringworm affects the scalp, the disease generally lasts for months, unless X-Ray treatment is obtained. Eleven cases attended Liverpool Hospitals last year for X-Ray treatment and were cured within a few weeks. An occasional child attended a private practitioner more or less regularly : in the majority of cases, ointment or iodine treatment was obtained from a hospital. There are, unfortunately, no facilities in Bootle for securing X-Ray treatment for these cases. In July, 1913, 41 Education Authorities had provided such treatment by (1) arrangement with an X-Ray specialist, (2) arrangement with a hospital or (3) provision of the apparatus by the Authority.

If any of these arrangements were made in Bootle, the average period of absence from school for children suffering from serious ringworm of the scalp would be reduced from five or six months to so many weeks.

*Scabies.* Home treatment, consisting of sulphur ointment and hot baths, is almost invariably the rule. A doctor is seldom consulted.

*Skin Diseases.* These cases included 50 of impetigo, of which 43 were cured: 33 of eczema of the head with 25 cured, and 49 of eczema of the body with 35 cured. Boracic and starch poultices and zinc ointment are the remedies usually applied for these conditions: not more than 5% attend a hospital or a private practitioner. Some of the worst cases were treated by the School Nurse.

*External Eye Disease and Defective Vision.*—All eye cases have been referred since September last to the Bootle Royal Hospital and an analysis of the cases treated will be found on pages 34 and 38.

The following are the terms of the agreement between the Education Authority and the Hospital Committee:—

1. That in consideration of a donation of £60 by the Education Committee to the Hospital Committee the latter will receive and deal with recommended cases of Bootle Elementary School Children requiring attention owing to eye troubles.

2. That, for such purpose the Hospital Committee will engage the services of a qualified oculist for not less than two half-days each week.

3. That provision shall exist for co-ordination between the School Medical Officer's Department of the Education Committee and the Hospital's Medical Staff concerned.

4. That in any case in which the School Medical Officer (or his deputy), by form so signed, recommends a child (and this agreement shall have reference only to cases so recommended, and they shall be limited to cases in which the parents presumably cannot afford to consult a private ophthalmic surgeon), the Hospital Staff shall inform him whether the child has actually presented itself, and if so, the nature of the advice or treatment given. The arrangement shall provide for a continuance of treatment until the defect be remedied. Cards will be supplied, at the cost of the Education Committee, to the Hospital for the purpose of recording the required information.

5. That no individual charge whatsoever be made by the Hospital to recommended cases.

6. That definite times be fixed by the Hospital for the attendance of children.

7. That the Education Committee's School Nurse shall attend the Hospital and render assistance on each of the two half-days weekly when children attend the Hospital for eye-testing.

8. That the arrangement be for a period of twelve months from the 1st September, 1913; the continuance thereof to be a matter for consideration after experience.

It is estimated that approximately one-sixth the amount will represent payment for the treatment of cases of eye-disease and the remainder payment for the examination of cases of refractive error and the prescription of spectacles.

A spectacle-maker attends the Hospital on the children's days and the children are measured for spectacles as soon as the prescription is given. In cases where it is ascertained that the parents cannot afford to buy a pair, the Authority pays for them. During the calendar year, 160 pairs of new spectacles were provided and two pairs were repaired. The total cost was £23 18s. 0d., of which 13s. 6d. was recovered from the parents; eighteen pairs @ 1/6 each were bought: 83 @ 2/-; 44 @ 4/6; 14 @ 5/6 and 1 @ 7/6: the repairs cost 2/6.

As a rule, three visits to the Hospital are required before a prescription is given and the parents are requested to bring the children back in about three months for further examination. In four cases of defective vision, the parents have refused to allow their children to be tested for spectacles, the alleged reason is that spectacles will prevent the boy getting work or will "spoil the girl's beauty:" in one of the latter cases, it may be noted that the girl has a marked squint.

Sometimes, at the school examination, it is doubtful whether the child cannot read the test type through nervousness or because of defective vision; such cases were carefully re-tested at the Town Hall by the School Nurse; in 38 the matter is still in doubt and they will be re-tested subsequently.



*Tonsils, Adenoids and Mouth Breathing.*—Only a small number of the children have received operative treatment for adenoids or enlarged tonsils, though in many more, such treatment is urgently required. Most of those under the heading “cured or remedied” were cases of slight defect. It is found that painting the throat is usually resorted to before an operation is performed. Most of the cases attend a hospital, the Bootle Royal, the Oxford Street, Liverpool, or the Stanley Hospital, Liverpool. A small proportion attend private practitioners. In the less marked cases, mouth-breathing exercises are usually carried out satisfactorily. There is need for some definite arrangement for the treatment of cases requiring operation.

*Ear Disease.* An occasional visit to the Royal Hospital, is the usual mode of securing treatment for cases of discharging ears. It is hoped that the additional School Nurse, under the supervision of the Medical Inspector, will be able to provide a certain amount of treatment for these cases. I trust that it will be possible to obtain operative treatment for those cases of chronic otitis media and mastoid disease for which prolonged syringing and other non-operative treatment is often of very little avail.

*General Debility.* The treatment usually given to such cases is the administration of Cod Liver Oil or some other nutriment on the advice of a neighbour or friend. Through the kindness of Miss Beavan, of the Invalid Children's Association, six children were admitted to the West Kirby Convalescent Home. A few visit private practitioners : others attend the inspection clinic from time to time and receive appropriate advice. The School Nurse keeps as many as possible of these children under supervision.

*Tuberculosis.* All tuberculous children are now dealt with by the Tuberculosis Officer, who treats them if their own medical practitioner assents. The Tuberculosis Nurse regularly visits the homes of all notified cases of Tuberculosis.

The Corporation are about to provide institutional treatment for non-insured cases of pulmonary tuberculosis and the Maghull Sanatorium and Linaere Hospital, though primarily intended for adults, will be available for children also. The Bootle Insurance Committee have set aside a suffic-

ient sum to provide two beds in an institution for the treatment of surgical tuberculosis in children ; but only those dependent on insured persons will be eligible for these. A proposal to establish an open-air school for debilitated children—not necessarily tuberculous—was considered during the year and deferred. A comprehensive scheme for dealing with tuberculosis amongst school children should include the following :—(a) Provision for *early detection* of the disease by special examination of all debilitated children, especially those who have been in contact with cases of phthisis : this is done in Bootle. (b) *Treatment of doubtful cases* : (1) in an open-air school, (2) in playground classes, and (3) by the provision of free meals. In Bootle, there are no playground classes solely for delicate children : free meals are provided during the winter months. (c) *Treatment of definite cases of pulmonary tuberculosis* in a “sanatorium open-air school,” or a day open-air school. (d) *Treatment of cases of surgical tuberculosis* at a “sanatorium school,” or “hospital school ;” and (e) Instruction in Hygiene for both children and teachers : this is regularly and systematically given.

With regard to surgical tuberculosis, it is stated in the last report of the Chief Medical Officer of the Board of Education that “ no scheme which does not provide for prolonged residence at a specially equipped institution is likely to be of any avail ” ; and concerning the result of treatment of such cases “ given appropriate treatment, the child will probably grow up to be a useful normal person : if this be lacking, even though the disease is eventually arrested, he almost certainly becomes a cripple more or less dependent on others for his support.”

*Teeth.*—The fact that practically nothing is being done to improve the condition of the children’s teeth, must be again noted, and some such provision is perhaps the most urgent need of the School Medical Service in Bootle at the present time. A very large number of Education Authorities (61 in July, 1913) now recognise the need for doing something to allay the evil consequences of the great prevalence of carious teeth amongst present day children, and have established Dental Clinics at which the teeth are attended to by conservative methods or by extraction, as is necessary. Three rooms are required : the cost of equipment would be £40 to £50. Part-time dentists are usually paid £1 for each half-day’s attendance. The services of a whole-time dentist could be secured for £250 per annum.

A whole-time dentist, or part-time dentists working 10 half-days each week, can inspect and treat 3,000 to 4,000 children each year. The parents of the children treated at dental clinics are required to pay for the treatment if they can afford to do so.

The expenses of materials and up-keep is about £50 per annum for a single clinic in constant use. Approximately one-half only of the cost would fall upon the Local Rates.

### **III.—General Review of the Hygienic Conditions prevalent in the Schools.**

During the year the drainage system at Bedford Road Council School was thoroughly examined and many defective traps replaced. The foot-rests from the desks in the Girls' Department were removed. The questions of ventilation and lighting of various portions of the school have been referred to the Managers. The lighting at St. Mary's School, the means of exit from the upper floor at St. John's School and the artificial lighting of St. James' Select School are receiving the attention of the respective groups of managers. The partition curtains in the Salisbury Road School are to be periodically cleaned. The ventilation in some schools would be improved if more use were made of the means provided. The appointment of Health or Ventilation Monitors to attend to the opening of windows, etc., would cause improvement.

For further particulars, last year's report should be consulted.

### **IV.—Provision and Management of Special Schools.**

This subject can best be introduced by the insertion of the " Numerical Return of all exceptional children in the Area " required by the Board of Education. A large number of the children who are " on the roll of a public elementary school " are not in attendance at school as they have been excluded " indefinitely."

TABLE III.

		Boys	Girls	Total	
BLIND, (including partially blind)	On the roll of a Public Elementary School	6	4	10	
	On the roll of a Certified School for the Blind	7	1	8	
	Not on a school roll .. .. .	3	2	5	
DEAF AND DUMB, including partially deaf	On the roll of a Public Elementary School	..	..	..	
	On the roll of a Certified School for the Deaf	5	1	6	
	Not on a School Roll .. .. .	..	..	..	
Mentally Deficient	Feeble-Minded	On the roll of a Public Elementary School	7	5	12
		On the roll of a Certified School for mentally defective children .. .. .	..	..	..
		Not on a School Roll .. .. .	3	2	5
	Imbeciles	On a School Roll .. .. .	..	..	..
		Not on a School Roll .. .. .	..	..	..
	Idiots	On a School Roll .. .. .	..	..	..
Not on a School Roll .. .. .		1	..	1	
Physically Defective	Epileptics	On the roll of a Public Elementary School	5	5	10
		On the roll of a Certified School for Epileptics	..	..	..
		Not on a School Roll .. .. .	1	..	1
	Pulmonary Tuberculosis	On the roll of a Public Elementary School	13	23	36
		On the roll of a Certified School for Physically Defective Children .. .. .	..	..	..
		Not on a School Roll .. .. .	..	2	2
	Other forms of Tuberculosis	On the roll of a Public Elementary School	15	16	31
		On the roll of a Certified School for Physically Defective Children .. .. .	..	..	..
		Not on a School Roll .. .. .	..	1	1
	Cripples other than Tubercular	On the roll of a Public Elementary School	..	1	1
		On the roll of a Certified School for Physically Defective Children .. .. .	1	..	1
		Not on a School Roll .. .. .	..	3	3
Dull or backward (judged according to Age & Standard)	Retarded 2 years .. .. .	207	156	363	
	„ 3 „ .. .. .	35	25	60	
	„ 4 „ .. .. .	6	12	18	



*Blind or Partially Blind Children.* The ten partially blind children, on the roll of an ordinary school, are suffering from progressive myopia, and their sight will become much worse and may fail altogether unless they are educated suitably. The majority are not now suitable for admission to a blind school and at the same time are quite unsuitable for education in an ordinary class of a public elementary school, the routine of which would cause their vision to rapidly deteriorate. In towns where a larger number than in Bootle of such short sighted children are found, special classes in ordinary schools have been arranged for them.

Seven blind children are at Hardman Street School for the Blind, Liverpool, and another at Brunswick Road School for the Blind, Liverpool. The five children who are not on a school roll have been recommended for a blind school and are awaiting admission.

*Deaf and Dumb Children.* Five children are at Oxford Street Deaf and Dumb School, Liverpool, and one is at St. John's Deaf and Dumb School, Boston Spa.

*Mentally Deficient Children.* The five feeble-minded children not on a school roll have been excluded permanently: the child classed as an "Idiot" has never attended school. There are probably many other mentally defective children of the imbecile or idiot class, who have never been to any school, and hence, have not come to the notice of the School Medical Officer, but it will shortly be necessary to search for such children and report them to the Local Authority (The Lancashire Asylums Board) under the Mental Deficiency Act, 1913.

Section 2 of that Act states: "Notice shall, . . . be given by the local education authority to the local authority under this Act in the case of all defective children over the age of seven—

(a) Who have been ascertained to be incapable by reason of mental defect of receiving benefit or further benefit in special schools or classes, or who cannot be instructed in a special school or class without detriment to the interests of the other children, or as respects whom the Board of Education certify that there are special circumstances which render it desirable that they should be dealt with under this Act by way of supervision or guardianship.

(b) Who on or before attaining the age of sixteen are about to be withdrawn or discharged from a special school or class, and in whose case the local education authority are of opinion that it would be to their benefit that they should be sent to an institution or placed under guardianship."

Section 31 reads—

"The duties of a local education authority shall include a duty to make arrangements, subject to the approval of the Board of Education,—

(a) for ascertaining what children within their area are defective children within the meaning of this Act ;

(b) for ascertaining which of such children are incapable by reason of mental defect of receiving benefit or further benefit from instruction in special schools or classes ;

(c) for notifying to the local authority under this Act, the names and addresses of defective children with respect to whom it is the duty of the local education authority to give notice under the provisions hereinbefore contained."

In the cases of the twelve feeble-minded children who are on a school roll, those who actually attend school are learning little or nothing, but so long as they are not a nuisance to the other scholars or the teachers they are better there than "running the streets." It is not perhaps generally known that given suitable special training and careful after-care, the number of mentally defective boys in good or promising employment some years after discharge from a special school may be 41%, and of mentally defective girls, 46%.

*Epileptics.* No provision is made in Bootle for the special education of epileptics. In none of these on the roll of an elementary school are the fits frequent, but in some cases the children are "queer." In addition to the epileptics under this head, one mentally deficient child not on a school roll suffers from epilepsy.

*Tuberculosis.* The figures in the table relating to tuberculosis are probably more accurate than those relating to other diseases or defects, because tuberculosis is compulsorily notifiable. The two girls suffering from pulmonary tuberculosis, who are not on a school roll, are aged 12 and 13 years, and are excluded permanently : the other tuberculous child not on a school roll is aged 12 years and has advanced lupus of the nose and both hands. Most of the other children, though on the roll of an ordinary school, have been excluded indefinitely, in some cases, months ago. It is very desirable that some special education should be provided for these physically defective children.

I have particulars of nine cases of tuberculous hip or spine who would benefit by treatment in a residential institution. They are cases of children, who have been placed in special frames in order to secure rest of the affected parts. The frames must be worn for many months. None of the children have attended any school during the past twelve months. The best place in which they could be educated would be an open-air residential hospital school, in which the children would receive such medical and surgical treatment as is necessary, and would also be

taught by qualified teachers for a few hours each day. The period of treatment required is very long and may extend to a year or more. Two Voluntary Institutions for crippled children exist in the neighbourhood of Liverpool, viz., the Royal Liverpool Country Hospital for Children, Heswall, and the West Kirby Convalescent Home. All crippled children, whether they suffer from tuberculosis or not, are admitted. Another Hospital School at Leasowe is about to be erected by the Invalid Children's Association. The annual cost of maintenance in these Institutions is about £30 per child. Bootle children would probably require eight or ten places. A Government Grant of from £5 to £8 per annum per child would probably be made under Part II of the Medical Grant Regulations.

Hence, the net charge for maintenance at a residential Institution would be about £25 per annum per child. Assuming that the Bootle Education Committee would deal in this way with, say, ten cases, the annual cost would be about £250.

There is, however, another way of attacking the problem of tuberculous children, and that is by their inclusion in the Corporation scheme for the treatment of Tuberculosis. If this were done, one half of the cost of the treatment (as distinct from the cost of Education) would be borne by the General District Rate and the remaining half by the Treasury.

But, apart from the children to whom a frame or heavy splint must be applied and who are perforce in a recumbent position for several months, there are a large number of weakly children who cannot attend an ordinary school because of ill-health, but who would greatly benefit by the modified curriculum of an open-air day school in which meals and rest intervals are provided. I know now of sixty-three such children: thirty-six are suffering from pulmonary tuberculosis or suspected tuberculosis, nineteen from various forms of non-pulmonary tuberculosis, such as tuberculous glands in the neck and eight are the victims of other diseases, e.g., various rheumatic affections. All these children have already been absent from school for long periods, and there are many other children who attend irregularly because of anæmia, general debility, or who are in that ill-defined state known as the pre-tuberculous, who would also benefit by admission to such a day open-air school.



*Cripples other than tuberculous.* The list of these children is probably incomplete ; the incompleteness arises from the fact that many seriously crippled children are not sent to school and hence are not brought to the notice of the School Authorities. The child who is attending an ordinary school is suffering from marked rickety deformity : the one in a certified school is suffering from infantile paralysis and is being maintained at the Royal Liverpool Country Hospital for Children, Heswall, through the generosity of a member of the Education Committee. The three not on a school roll are suffering from advanced heart disease and have been permanently excluded.

### V. Physical Training, etc.

The interest taken in Physical Training, organised games, swimming and games clubs, noted in former reports continues, and markedly increases.

The importance of the instruction in mouth-breathing is realised by the teachers. The following may be quoted from the last report of the Chief Medical Officer of the Board of Education :—

“ ‘ Handkerchief Drill ’ is an almost necessary preliminary to breathing exercises as most Infants have not been taught at home to blow their noses properly. One method of teaching little children to breathe is to tell them to place their hands on their lower ribs and to push the hands out with the chest. Both the inspiration and the expiration should be through the nostrils, and the teacher should endeavour to watch every child to see that the proper movement is being made and that the breath is not being held. Not only should special care be taken to avoid holding the breath, but it should be remembered that the normal rate of breathing is more rapid in children, and particularly in little children, than in adults. The teachers should therefore not judge the rate of breathing from her own practice, but should encourage a more rapid rhythm. In the initial stage of teaching breathing, it may occasionally be permissible to let the air come out audibly through the mouth, in order that the teacher may satisfy herself that the children are really filling their lungs.”

*Playground Classes.* There is need for an extension of the practice of teaching the children in the open air during the summer months. In some schools various classes are taught in the playground for a certain number



of lessons each week, and in all schools the physical exercises are performed in the playground, unless the weather is very bad. In the absence of an open-air school, it is advisable to collect together a number of debilitated children and teach them entirely in the open air : an awning and the necessary school furniture would be alone required.

#### TEACHING OF TEMPERANCE AND PERSONAL HYGIENE.

Lectures on Temperance are delivered to the upper standards every quarter by a Lecturer appointed for the purpose. Lessons on Infant Care and Management are given in the Senior Girls' Schools by the Teachers. The offer to send a Lady Health Visitor with a mother and her infant, to give a practical demonstration on the subject of infant care and management, was not taken advantage of, but is still open.

#### VI. Juvenile Employment.

The Juvenile Employment Sub-Committee and their officer, continue to avail themselves of the records of Medical Inspection of the leavers. During the year, Dr. Milligan investigated the extent, the reasons for, and the effects of employment of school boys out of school hours, and has made the following report on the subject :—

“ *The Extent.*—Employment out of school hours can be said to begin at the age of nine years, the numbers employed being a little over 3% of the total numbers on the roll at that age.

There is, however, no regular market for boy labour at nine years, and the numbers employed vary greatly in different schools. Half the schools have none employed at nine years, while in one school (Salisbury Road) the number reaches 10% of the total on the roll at that age. From ten years up to the end of school life, i.e., at the end of the thirteenth year, employment out of school hours becomes a regular feature of boy-life, the number increasing with few exceptions in each school at each succeeding year ; thus at ten years 3%, at eleven years 10%, at twelve years 20%, and at thirteen years 24% of the boys at these ages are employed out of school hours. In one school (St. John's) the number employed at thirteen years of age reaches the high figure of 51.7%.

*Hours of Employment.*—That this employment is no casual running of occasional errands will be seen from an analysis of the hours during which these boys are employed. Details were obtained of just over 200 cases, and it is discovered that (a) 43 of the boys work more than 30 hours a week, the average being 33 hours, while a maximum of just over 40 hours was reached by two boys, both milk boys; (b) 76 are engaged between 20 and 30 hours a week the average number of hours worked by each being 24; (c) 83 are employed between 10 and 20 hours a week the average being just over 13 hours. These hours of employment, it is to be remembered, are all in addition to the regular hours of school work. Many of the boys were employed in contravention of the terms of the Employment of Children Act, which prohibits child labour between 9 p.m. and 6 a.m. : this particularly occurred on Friday and on Saturday nights. The Police have already attended to all cases referred to them, and all future cases will be notified as soon as they are discovered.

*Nature of Employment.*—The largest group of workers, 112 in all, is engaged to run errands for the various shopkeepers, 46 were engaged on a milk round, 36 delivering newspapers, while the remainder are engaged selling papers in the streets, as barbers' boys, taking out coal in hand-carts, as watch boys at shop doors and in many other miscellaneous occupations.

*Reasons for Employment.*—There can be no doubt that the economic factor plays a considerable part in causing the entry of these boys into the labour market. With few exceptions, which can be reasonably accounted for otherwise, schools which are attended by the children of the poorer classes have the greatest number of employed children, while the children of the more comfortably situated in each school do not seek employment. In this connection it is interesting to inquire what the earnings are, and here further surprising evidence is forthcoming of the recognised place of this form of boy labour in our social system, in that the wages paid maintain a fairly uniform standard rate of one penny per hour (without considering the gratuities which some classes obtain). Those employed for the longer hours, 30–40 per week, receive a fraction less than this rate, namely  $2/6$  per week, the 20–30 hour group almost exactly coincide with the standard, and since there is a minimum which must be reached, the short time 10–20 hour boys receive a little more.

In addition to the economic factor, it must be recognised that many parents hold the view that this employment is a real benefit to the children ; indeed, the commonest reason given is the paradoxical one, " that it keeps them from running the streets," although that is, as a rule, precisely what their employment entails. Parents also say that it inculcates habits of economy, and benefits them physically in that it keeps them out in the air. While these views were in many cases obviously held honestly, it should be remembered that their interest lies that way, and the addition of half-a-crown weekly to the income of a labourer's household will not be without its effect.

*The Effects.*—Enough has been said in the preceding paragraphs regarding the extent of this employment to show that there is distinctly a case for inquiry as to what may be its effects both on the physical condition of the children and on their educational and moral development. Here it is proposed to deal with the subject principally as it affects them physically.

It is a matter of some difficulty to find any rigid test of physical condition which would be free from variations, the result of personal equation or of the time or place of examination. It was decided that consideration of the heights and weights, and the relation of height to weight, in workers as contrasted with non-workers, would afford the most reliable indication. In addition, it was found from other sources that this determination of height and weight did afford a reliable guide to physical condition generally.

Taking then this basis of comparison, it is found that the workers have the advantage of the non-workers in both height and weight at all ages. At the earlier ages, nine and ten, this difference is sometimes marked, but little importance should be attached to this circumstance since, as is pointed out above, the market for boy labour at the earlier ages being small, only boys big for their years will be selected. At age eleven, the workers in every school are taller and heavier than the non-workers. At age twelve, although in two schools the workers are shorter, in every case they are heavier than the non-workers, with the exception of Christ Church, where the number considered is small. At age thirteen, the results are not so uniform : in four schools the balance is in favour of the non-workers, while in the other four the reverse is the case, but taking all the schools together the advantage is still with the boys who work.



Not only do the workers thus have the advantage in height and weight, but by the accompanying table (Table 2, p. 73) showing the number of grammes weight per centimetre of height, it will be seen that they are proportionately heavy. Here also at each age the workers have the advantage. At ages eleven and twelve the differences are markedly in favour of the workers, but at age thirteen the two groups are more nearly equal.

This comparison of workers and non-workers is open to certain fallacies, the chief being that (a) only big healthy boys will be selected for work, and (b) puny, delicate ones will not be allowed to work by their parents or not accepted by employers. Both these considerations would have the effect of turning the balance in favour of the workers. The former, namely, that only big healthy boys work, is probably counter-balanced by the fact that the children of those parents who are more comfortably placed socially are probably the biggest and heaviest in the average, and they do not as a rule seek employment. The latter objection that small and feeble boys do not work is in the main true, but not a few instances were found, where boys were sent out to work because they were failing or "not coming on." Also many mothers claimed that their children actually did improve after commencing work.

Before drawing any general conclusions from the above analysis, it is advisable to compare these workers when grouped according to the nature of the work done to discover if possible whether any special kind of work might react unfavourably (Table 3, p. 74).

Here the workers of each special group have been contrasted with workers as a whole, the latter being used as the Standard. The results now are not so uniform, or perhaps so reliable, chiefly from the fact that as a result of the sub-division the numbers become smaller and more liable to fluctuation. To obviate this source of error it is advisable to consider only boys from eleven years upwards and only in such groups as have the total numbers considerable. Taking then errand boys, it is found that they fairly maintain the standard in both height and weight, deficiencies as at age thirteen being small. Also the height-weight ratio is more than maintained. Milk boys are below the standard considerably at both twelve and thirteen years in height and weight, although at age eleven they are slightly above the standard weight. Also the height-weight ratio shows marked deficiency at both the former



ages. Newspaper boys, that is, those boys who deliver papers at the houses of customers, show a similar deficiency, being below standard at all ages, except that they are above standard height at age thirteen; at all ages there is a very marked deficiency in the height-weight ratio. The numbers in these three groups are sufficiently large to give them considerable value and the failure of milk and paper boys to reach the standard is striking. The nature of their employment is similar and similar results have been found elsewhere. Various causes are brought forward to account for this. The hours of employment, particularly the hour of starting in the morning, which usually entails rising before 6 a.m., must interfere seriously with their sleep, and for a similar reason they are often deprived of their meals, particularly breakfast. A mitigating influence in favour of the milk boys, that they are often given milk to drink, and probably that they help themselves without permission, is not present in the case of newspaper boys, and may account for the fact that the latter group shows even worse results.

The other groups of workers embrace much smaller numbers and the results are often anomalous. For example, barbers' boys, whose occupation would not be described as of the healthiest, are well above standard at all ages. This is probably due to selection of only the healthiest boys for this occupation, and it must also be remembered that they earn very considerable sums, not only as wages, but as "tips" in addition. Street paper sellers, i.e., those who trade in newspapers, are rather below standard, in spite of the fact that they earn large sums, as much as eight shillings per week, but this is easily accounted for by the fact that they usually come from the poorest homes. No special deductions can be drawn from the other groups of coal boys, etc.

A further analysis was made according to the numbers of hours worked per week. Those who worked only a few hours—under ten—practically accord with standard at all ages. Those working 20–30 hours are above standard height but below standard weight at age eleven, below both height and weight at age twelve, and below height-weight ratio standard at both ages. They are, however, well above standard height and weight and standard height-weight ratio at age thirteen. Those working over thirty hours at age twelve are above standard height and weight, though the ratio is only slightly raised, but at age thirteen, and where the number

reckoned is large, they show a marked fall in height and weight and the ratio also shows a marked depression.

*Conclusions.*—Viewing then the results of this inquiry, several conclusions suggest themselves. The fact that in the first review the workers compare favourably with the non-workers lends no support to the frequently expressed opinion that every kind of employment out of school hours offers a serious menace to the physical well-being of these children. Nor was the general impression left at the examinations adverse; indeed, the workers on the whole presented, if anything, a brighter appearance. It should be noticed, however, that at age thirteen the difference in favour of the workers almost disappears, and it might be urged that it is only after a lengthy period that the deleterious effect of out-of-school employment manifests itself. This does not appear to be a very weighty consideration, particularly since whatever difference still exists is in favour of the workers. It should also be remembered that employment is not continuous, although on the whole it is probable that the same children are employed throughout the latter years of school life. This deficiency at age thirteen has been strongly emphasised in the “half-time” towns particularly Bradford, but conditions of factory work in such towns find no parallel in Bootle.

To account for this apparent advantage in favour of the workers several reasons suggest themselves. Very frequently it is found that the earnings are regarded as peculiarly the boy's property to be devoted solely to his benefit, so that he probably gets extras at home in the way of food and clothing. The very fact itself that he is one of the wage-earners of the household will probably often ensure him greater attention. Also it is common to find that in addition to his wages, he gets food such as meat, milk, or vegetables from his employer. It should further be noted that the boys undoubtedly enjoy this kind of work, perhaps from a sense of their increased importance, and this might conceivably react to their advantage physically.

When the above considerations have been put forward, it appears that all that can be said in favour of this kind of employment has been exhausted. The two later analyses create a different feeling. Particular emphasis should be laid on the results of the examination of milk-boys and paper-boys

as their deficiency can hardly be regarded as a coincidence. It would appear that the chief influence acting against them is the early start, but it should also be remembered that in some cases they also work the longest hours.

These two factors, the early start which so interferes with their proper amount of sleep, and the long hours worked by some of the boys, appear most to require regulation, the former probably being the more important. Although there is insufficient evidence to dogmatize as to the effect, the indications are sufficiently clear to warrant the above conclusions and to promote a desire to lessen the evil effects by, if possible, arranging a maximum number of hours to be worked, and so regulating those hours, that sleep and meals will not be interfered with.

The effect educationally must not be lost sight of. Many complaints are made by school masters of the difficulty of getting some of these boys to concentrate attention on their work in the forenoon, a difficulty not hard to understand when it is remembered that they have already done two or three hours' work before arriving at school.

I am,

Yours obediently,

H. J. MILLIGAN,

*Medical Inspector of Scholars.*

*To the School Medical Officer."*

TABLE 1.

PERCENTAGE NUMBERS OF THOSE IN ATTENDANCE AT  
VARIOUS AGES WHO ARE EMPLOYED.

Age	Bedford Road	Christ Church	Gray Street	Linacre	St. James'	St. John's	Salisbury Road	Orrell	Total
9	—	—	—	8·7	—	2·2	10·3	5·4	3·05
10	4·4	1·5	4·6	2·8	1·2	2·3	1·8	9·6	3·4
11	4·5	16·0	10·9	11·3	12·1	11·5	11·1	8·3	10·1
12	26·6	4·0	15·3	13·0	24·69	28·2	28·0	16·6	20·2
13	16·0	19·2	26·4	26·1	18·1	51·7	26·08	37·0	24·8
% employ- ed at ages 11 to 13 inclusive	14·1	12·8	16·4	15·6	18·6	27·2	22·0	18·4	18·0

TABLE 2.

COMPARISON OF HEIGHTS AND WEIGHTS IN WORKERS  
AND NON-WORKERS.

Ages	WORKERS.				NON-WORKERS			
	Number exam'd	Average height	Average weight	Height Weight ratio	Number exam'd	Average height	Average weight	Height Weight ratio
9	11	127·5	25·5	199	40	122·62	4·05	196
10	17	129·5	27·2	210	52	129·3	26·49	204
11	51	133·3	29·1	218	39	128·	26·48	206
12	97	138·1	32·18	233	179	135·8	30·5	224
13	90	140·5	33·06	235	123	140·3	32·9	234

Height is given in centimetres

Weight is given in kilogrammes

Height-Weight ratio represents number of grammes per centimetre.



TABLE 3  
AVERAGE HEIGHTS AND WEIGHTS OF BOYS EMPLOYED IN VARIOUS OCCUPATIONS.

Age	Errand Boys			Milk Boys			Paper Boys			Street Paper Sellers			Barbers' Boys			Coal Boys			Watch Boys		
	Height	Weight	Ht Wt ratio	Height	Weight	Ht Wt ratio	Height	Weight	Ht Wt ratio	Height	Weight	Ht Wt ratio	Height	Weight	Ht Wt ratio	Height	Weight	Ht Wt ratio	Height	Weight	Ht Wt ratio
11	136.3	30.7	225	132.4	29.2	221	130.8	27.6	210	—	—	—	133.5	29.3	219	—	—	—	126.1	25.4	201
12	138.5	32.0	231	136.7	30.6	224	137.0	30.8	225	134.4	34.2	230	140.7	35.5	252	137.9	33.3	241	140.1	33.7	241
13	139.6	32.9	238	140.3	32.4	231	141	32.0	226	138	31.8	230	142.9	34.2	239	140.5	32.7	232	—	—	—

## VII. Feeding of School Children.

A report by the Secretaries of the School Canteen Committee on the work performed during the winter session 1912-13, has been sent to the Board of Education, and circulated amongst the Committee, hence it is unnecessary for me to make a long statement on this subject.

The number of ill-nourished children discovered at routine inspection was 4·2% : taking this as the proportion, there should be 453 ill-nourished children in average attendance at the schools. The average number of children fed throughout the winter session, 1912-13, was 650 ; hence, though the selection is primarily on a poverty basis, all ill-nourished children are probably being fed to the extent provided by the Committee. To test this, under-nourished children at the routine inspections were often asked if they were on the breakfast list, and almost invariably they were. During the Christmas holidays 300 children were fed, the cost being borne by voluntary contributions. Ten per cent of those who receive breakfast are provided with dinner also. There are undoubtedly some children who are under-fed during the summer months.

By the kindness of their respective Head Teachers, certain children selected at random, in receipt of free breakfasts throughout the period of six months from September, 1913, to March, 1914, were regularly weighed ; as were a similar number of controls of the same ages, also selected at random, who were not on the Breakfast List. In each group, several children were absent on the weighing days, or left school before the end of the six months, with the result that the weights of 47 breakfast and of 48 non-breakfast children were available for purposes of comparison. Two of the breakfast children lost half a kilogram each, one lost ·1 kilogramme and the weight of a fourth was constant. The remaining 43 gained 55·7 kilogrammes between them. The weight of one of the non-breakfast children was constant, the remaining 47 gained between them 57·4 kilogrammes. The net increase of weight of the 47 breakfast children was 54·6 kilogrammes, or an average of 1·16 kilogrammes each. The average gain of each of the non-breakfast children was 1·19 kilogrammes.

These results must be regarded as quite satisfactory, particularly when it is remembered that the breakfast children are probably not nearly so well fed at meals other than breakfast as are the others.

TOWN HALL,

BOOTLE,

1914







